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J. Grinnel

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PROCEEDINGS

OF THE

CALIFORNIA ACADEMY OF SCIENCES

FOURTH SERIES

VOL. III, pp. 265-390, pls. 15, 16 AUGUST 28, 1913

A Distributional List of the Mammals of California

BY

JOSEPH GRINNELL
Director of the California Museum of Vertebrate Zoology

SAN FRANCISCO
PUBLISHED BY THE ACADEMY
1913

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A DISTRIBUTIONAL LIST OF THE MAMMALS OF CALIFORNIA

BY JOSEPH GRINNELL
Director of the California Museum of Vertebrate Zoology

The compilation of the following list of the mammals of California has proved well worth while as a help in work with the collections in the California Museum of Vertebrate Zoology. It is believed that its publication now will find justification in its resulting usefulness in other ways—wherever, in fact, a clue to the described species is desired. The literature of the subject is widely scattered, and an index to it, so far as California is concerned, has been practically wanting. The present contribution is intended to meet, in part at least, this need.

It must be urged upon the casual enquirer that, at the present stage in the systematic study of California mammals, the status of the various forms as here given can in scarcely any case be accepted as final. Only a few genera have been given critical study upon the basis of material at all satisfactory. Osgood's *Revision of the Mice of the American Genus Peromyscus* (1909) may be cited as the best example of such monographic treatment. Not until each group has been subjected to similar analysis, and especially so with regard to limited areas such as that comprised within the state of California, can the status and distribution of the more slightly differentiated forms be considered as satisfactorily established.

In including species and subspecies, the writer has in the great majority of cases followed the conclusions of the original describers. Where genera have been formally revised, the de-

August 26, 1913.

cisions of the reviser have been accepted. This has been the rule; but in a few instances, where the material at hand has seemed adequate, and where a sufficient amount of study has been accorded it to warrant, as it might seem, an independent opinion, this has been offered. Thus certain current names will be found synonymized, and other names not generally recognized are given full standing.

It is quite probable that to the present list a number of forms are admitted, which subsequent collections and studies will show to be untenable. This is particularly likely in the Heteromyidae. On the other hand, there doubtless remain many species and subspecies yet to be discovered and named; so that in time the total number of mammals known to belong to California is likely to remain undiminished.

The point to be emphasized is that, both as regards the standing of the species of our region, and as regards their distribution, systematic mammalogy is in a formative stage. A very great amount of field-work and critical study must be done to bring mammalogy to the plane already reached in ornithology.

The system of entry adopted in the following list is simple. Of the higher groups only Orders and Families are given. The scientific name here adopted for the species is given in boldface, followed by the authority. A vernacular name has been selected—in many cases with difficulty, as is admitted. In nearly every case the "original description" has been verified from its original source. In the few instances where the citation is given within quotation marks, the citation is at secondhand, that is, the original has not been seen by the writer.

The type locality is usually just as given in connection with the original description; sometimes it is modified somewhat to make it more intelligible, for example, by giving the name of the county or of the nearest large town; and occasionally corrections have been necessary.

The "synonyms" are any other names—aside from those appearing in the heading and in the citation following "original description"—that have been applied to the species *as occurring within the state of California.* Where a name now considered synonymous with the accepted one, was based upon a specimen *from California,* the full citation and type locality are given.

The "range" of each species is given briefly, but as accurately as our present state of zoogeographical knowledge makes possible. In the case of land mammals, ranges are stated, wherever practicable, in terms of life-zones and faunal areas. Exact localities are named only where they are believed to mark points somewhere near the extreme limits of distribution. Authorities for the information included in the statement of range are always given whenever precise data of any sort are available. In all cases where the abbreviation "Mus. Vert. Zool." appears, specimens indicating the stated range, either entirely or in part, are contained in the California Museum of Vertebrate Zoology.

The accompanying map of the life-zones of the state has been compiled primarily from data on file in the California Museum of Vertebrate Zoology. Use has been made also of information from many published botanical papers. Professor Harvey M. Hall of the University of California has kindly made a number of corrections based upon his knowledge of plant-distribution in the state. It is almost superfluous to state here that the employment of the life-zone concept in defining ranges of animals as well as of plants, owes its beginning to the researches of the foremost mammalogist of America, C. Hart Merriam. It is a matter of credit to him that the farther we carry our studies in distribution, the more they align themselves in support of the laws formulated by him.

The map of the faunal districts of the state is offered not at all as a final exposition of this order of distributional behavior, but as a help in designating the ranges of the mammals. The boundaries as given are of course merely approximate; and even the areas themselves, as here outlined, will doubtless receive extensive modification on the basis of further geographical study.

The present list was concluded to date, in August, 1912. Since then appeared Gerrit S. Miller's important *List of North American Land Mammals in the United States National Museum, 1911* (published December 31, 1912). The writer thereupon changed the order in the California list to accord with Miller's, and also made a number of changes in generic and family names in accordance with some of the decisions of the same authority.

The writer here wishes to express his appreciation of the cordial assistance rendered in various ways by Mr. John Rowley, Curator of Mammals in the California Academy of Sciences. Acknowledgments are also due Mr. Walter P. Taylor, of the staff of the California Museum of Vertebrate Zoology, for correcting several errors in the manuscript.

To summarize: according to the present enumeration 337 species of mammals are accredited to California and the adjacent ocean. Eight Orders are represented, thirty-one Families, and eighty-nine Genera.

Order INSECTIVORA

Family TALPIDAE

Scapanus townsendi (Bachman)

Oregon Mole

Original description—*Scalops townsendii* Bachman, Journ. Acad. Nat. Sci. Phila., **8**, pt. 1, 1839, pp. 58–60.

Type locality—Fort Vancouver, Clarke County, Washington (*fide* True, Proc. U. S. Nat. Mus., **19**, 1896, p. 63).

Synonym—Townsend Mole.

Range—Boreal and Transition zones in extreme northern humid coast belt, south to Cuddeback, Humboldt County (Mus. Vert. Zool.).

Scapanus orarius True

Northwest Coast Mole

Original description—*Scapanus orarius* True, Proc. U. S. Nat. Mus., **19**, December, 1896, p. 52.

Type locality—Shoalwater Bay, Pacific County, Washington.

Range—Boreal and Transition zones in extreme northern humid coast belt, south as far as Cuddeback, Humboldt County (Mus. Vert. Zool.), and Mendocino, Mendocino County (Elliot, Field Col. Mus., zool. ser., **3**, 1903, p. 197).

Scapanus latimanus latimanus (Bachman)

Central California Mole

Original description—*Scalops latimanus* Bachman, Boston Journ. Nat. Hist., **4**, January, 1842, pp. 34, 35.

Type locality—Probably Santa Clara, Santa Clara County, California (*fide* Osgood, Proc. Biol. Soc. Wash., **20**, 1907, p. 52).

Synonyms—*Scalops californicus* Ayres, Proc. Calif. Acad. Sci., **1**, 1855, p. 54 (type from San Francisco, California); *Scapanus californicus,* part; *Scapanus townsendi,* part; *Scapanus californicus minusculus* Bangs, Proc. New Eng. Zool. Club, **1**, July 31, 1899, p. 70 (type from Fyffe, Eldorado County, California); Broad-palmed Shrew-mole.

Range—Upper Sonoran and Transition zones of west-central California, east to include the Sierra Nevada and as far as Independence, Inyo County, north to Shasta County, south to San Luis Obispo County (Mus. Vert. Zool.).

Scapanus latimanus occultus Grinnell and Swarth

Southern California Mole

Original description—*Scapanus latimanus occultus* Grinnell and Swarth, Univ. Calif. Publ. Zool., **10**, April 13, 1912, p. 131.

Type locality—Santa Ana Canyon, 400 feet altitude, Orange County, California.

Synonyms—*Scapanus californicus,* part; *Scapanus latimanus,* part; *Scapanus anthonyi; Scapanus californicus anthonyi;* Anthony Mole.

Range—Southern California, west of the desert divides, south of the 35th parallel, hence chiefly in the San Diegan district; ranges from Lower Sonoran zone to Boreal (Mus. Vert. Zool.).

Scapanus latimanus truei Merriam

Modoc Mole

Original description—*Scapanus truei* Merriam, Proc. Biol. Soc. Wash., **11**, April 26, 1897, p. 102.

Type locality—Lake City, Modoc County, California.

Synonym—Scapanus californicus truei.

Range—Upper Sonoran and Transition zones in the Modoc region of northeastern California, east at least as far as Sisson, Siskiyou County (Mus. Vert. Zool.).

Neurotrichus gibbsi major Merriam

Large Shrew-Mole

Original description—Neurotrichus gibbsi major Merriam, N. Amer. Fauna, **16**, October 28, 1899, p. 88.

Type locality—Carberry Ranch, 4100 feet altitude, between Mount Shasta and Mount Lassen, Shasta County, California.

Synonyms—Neurotrichus gibbsi, part; Gibbs Mole, part.

Range—High Transition and Boreal zones on Mount Shasta, and at the type locality, as above (Merriam, *supra cit.*).

Neurotrichus gibbsi hyacinthinus Bangs

California Shrew-Mole

Original description—Neurotrichus gibbsi hyacinthinus Bangs, Amer. Nat., **31**, March, 1897, pp. 240, 241.

Type locality—Nicasio, Marin County, California.

Synonyms—Neurotrichus gibbsi, part; Hyacinthine Shrew-Mole; Gibbs Mole, part.

Range—Transition and Boreal zones in the northwest humid coast belt from the Humboldt Bay region south as far as Santa Cruz, Santa Cruz County, and Portola, San Mateo County (Mus. Vert. Zool.; Allen, Bull. Amer. Mus. Nat. Hist., **8**, 1896, p. 269).

Family SORICIDAE

Sorex vagrans vagrans Baird

Wandering Shrew

Original description—Sorex vagrans (Cooper MS) Baird, Pac. R. R. Rep., **8**, 1857, pp. 15-18, pl. 18, figs. 5, 6.

Type locality—Shoalwater Bay, Pacific County, Washington.

Range—Upper Sonoran, Transition and Boreal zones in the northwestern portion of the state, east to Shasta County, and south as far as Monterey (Merriam, N. Amer. Fauna, **10**, 1895, p. 68; Mus. Vert. Zool.).

Sorex vagrans amoenus Merriam

Sierra Nevada Shrew

Original description—*Sorex amoenus* Merriam, N. Amer. Fauna, **10**, December, 1895, pp. 69, 70.

Type locality—Mammoth Pass, 10,000 feet altitude, east slope Sierra Nevada, Mono County, California.

Range—Transition and Boreal zones on the Sierra Nevada, at least from Mono County north to Mount Shasta (Merriam, *supra cit.*, and N. Amer. Fauna, **16**, 1899, p. 87; Mus. Vert. Zool.).

Sorex halicoetes Grinnell

Salt Marsh Shrew

Original description—*Sorex halicoetes* Grinnell, Univ. Calif. Publ. Zool., **10**, March 20, 1913, pp. 181-184.

Type locality—Salt Marsh near Palo Alto, Santa Clara County, California.

Range—Salt marshes bordering the south arm of San Francisco Bay, at least from Belmont, San Mateo County, around to Melrose, Alameda County (Mus. Vert. Zool.).

Sorex obscurus obscurus Merriam

Dusky Shrew

Original description—*Sorex obscurus* Merriam, N. Amer. Fauna, **10**, December, 1895, pp. 72, 73.

Type locality—Timber Creek, 8200 feet, Salmon River Mountains, Idaho (see Merriam, N. Amer. Fauna, **5**, 1891, p. 34).

Range—Boreal zone along the Sierra Nevada, from Shasta County to Olancha Peak, Tulare County (Merriam, *supra cit.;* Mus. Vert. Zool.).

Sorex montereyensis montereyensis Merriam

Monterey Shrew

Original description—*Sorex montereyensis* Merriam, N. Amer. Fauna, **10**, December, 1895, p. 79.

Type locality—Monterey, Monterey County, California.

Range—Transition and Upper Sonoran zones in the northern and central coast districts, from the Oregon line south as far as Morro, San Luis Obispo County (Merriam, *supra cit.;* Mus. Vert. Zool.).

Sorex montereyensis mariposae Grinnell

Yosemite Shrew

Original description—*Sorex montereyensis mariposae* Grinnell, Univ. Calif. Publ. Zool., **10**, March 20, 1913, pp. 189, 190.

Type locality—Yosemite Valley at 4000 feet altitude, Mariposa County, California.

Synonyms—*Sorex montereyensis,* part; Monterey Shrew, part.

Range—Transition zone along west slope of Sierra Navada, at least from Siskiyou County to Tulare County; also on the Warner Mountains, Modoc County (Mus. Vert. Zool.; Merriam, N. Amer. Fauna, **10**, 1895, p. 79).

Sorex ornatus Merriam

Adorned Shrew

Original description—*Sorex ornatus* Merriam, N. Amer. Fauna, **10**, December, 1895, pp. 79, 80.

Type locality—San Emigdio Canyon, Mount Pinos, in Kern County, California.

Range—Upper Sonoran and Transition zones in the San Diegan district and included mountain ranges, from the Mexican line northwest to Mount Pinos and Fort Tejon, in Ventura and Kern counties (Merriam, *supra cit.;* Mus. Vert. Zool.).

Sorex californicus californicus Merriam

California Shrew

Original description—*Sorex californicus* Merriam, N. Amer. Fauna, **10**, December, 1895, pp. 80, 81.

Type locality—Walnut Creek, Contra Costa County, California.

Range—Upper Sonoran zone of west-central California along inner coast ranges and in the vicinity of San Francisco Bay, north to Rumsey, Yolo County, east to Byron, Contra Costa County, and south to near Los Baños, Merced County (Merriam, *supra cit.;* Mus. Vert. Zool.).

Sorex sinuosus Grinnell

Suisun Shrew

Original description—*Sorex sinuosus* Grinnell, Univ. Calif. Publ. Zool., **10**, March 20, 1913, pp. 181, 187.

Type locality—Grizzly Island, near Suisun, Solano County, California.

Range—Brackish marshes of Grizzly Island, Suisun Bay, Solano County (Mus. Vert. Zool.).

Sorex shastensis Merriam

Shasta Shrew

Original description—*Sorex shastensis* Merriam, N. Amer. Fauna, **16**, October 28, 1899, p. 87.

Type locality—Wagon Camp, 5700 feet altitude, Mount Shasta, Siskiyou County, California.

Range—Boreal zone of Mount Shasta; only the type, as above, recorded.

Sorex tenellus tenellus Merriam

Inyo Shrew

Original description—*Sorex tenellus* Merriam, N. Amer. Fauna, **10**, December, 1895, p. 81.

Type locality—Summit of Alabama Hills near Lone Pine, Owens Valley, Inyo County, California.

Range—Known only from the type locality, as above.

Sorex tenellus lyelli Merriam

Mount Lyell Shrew

Original description—Sorex tenellus lyelli Merriam, Proc. Biol. Soc. Wash., **15**, March 22, 1902, p. 75.

Type locality—Mount Lyell, Tuolumne County, California.

Range—Known only from the type locality, as above.

Sorex tenellus myops Merriam

White Mountains Shrew

Original description—Sorex tenellus myops Merriam, Proc. Biol. Soc. Wash., **15**, March 22, 1902, p. 76.

Type locality—White Mountains, Inyo County, California.

Range—Known only from the type locality, as above.

Sorex pacificus Baird

Pacific Shrew

Original description—Sorex pacificus Baird, *in* Coues, Bull. U. S. Geol. and Geog. Surv. Terr., **3**, 1877, p. 650.

Type locality—Fort Umpqua, mouth of Umpqua River, Douglas County, Oregon.

Range—Transition and Boreal zones in the northwest humid coast belt: Humboldt Bay region and south as far as Point Reyes, Marin County (Merriam, N. Amer. Fauna, **10**, 1895, p. 87; Mus. Vert. Zool.).

Neosorex palustris navigator Baird

Navigator Shrew

Original description—Neosorex navigator (Cooper, MS) Baird, Pac. R. R. Rep., **8**, 1857, pp. 11, 12, pl. 26.

Type locality—Unknown; possibly northern Idaho (*fide* Merriam, N. Amer. Fauna, **10**, 1895, p. 92).

Synonyms—Sorex palustris navigator; Water Shrew.

Range—Chiefly in the Boreal zone, on the Sierra Nevada, from Whitney Meadows, Tulare County, north to Mount Shasta, and on the Warner Mountains, Modoc County (Mus. Vert. Zool.).

Neosorex bendirei bendirei (Merriam)

Bendire Shrew

Original description—"*Atophyrax bendirii* Merriam, Trans. Linn. Soc. New York, **2**, August, 1884, pp. 217–225."

Type locality—Near Williamson River, 18 miles southeast of Fort Klamath, Klamath County, Oregon (*fide* Merriam, N. Amer. Fauna, **10**, 1895, pp. 95–97).

Synonym—*Sorex bendirei.*

Range—Transition and Boreal zones in the humid northwest coast belt: Humboldt Bay region south to Gualala, Mendocino County (Merriam, *supra cit.;* Mus. Vert. Zool.).

Notiosorex crawfordi crawfordi Baird

Desert Shrew

Original description—*Sorex (Notiosorex) crawfordi* Baird, *in* Coues, Bull. U. S. Geol. and Geog. Surv. Terr., **3**, 1877, pp. 651, 652.

Type locality—El Paso, Texas (*fide* Merriam, N. Amer. Fauna, **10**, 1895, p. 32).

Synonyms—Crawford Shrew; Gray Shrew; *Sorex crawfordi.*

Range—Lower Sonoran zone in the San Diegan district, from the Mexican line north at least to San Bernardino and Colton (Stephens, Calif. Mammals, 1906, p. 255; Mus. Vert. Zool.).

Order CHIROPTERA

Family PHYLLOSTOMIDAE

Macrotus californicus Baird

California Leaf-nosed Bat

Original description—*Macrotus californicus* Baird, Proc. Acad. Nat. Sci. Phila., May, 1858, pp. 116, 117.

Type locality—Fort Yuma, Imperial County, California.

Synonyms—*Macrotus waterhousei; Otopterus californicus.*

Range—Lower Sonoran zone on the Colorado desert, northwest to near Torres, Riverside County (Mus. Vert. Zool.). Apparently absent during midwinter (see Stephens, Calif. Mammals, 1906, pp. 276, 277).

Family VESPERTILIONIDAE

Myotis velifer (J. A. Allen)

Cave Bat

Original description—*Vespertilio velifer* Allen, Bull. Amer. Mus. Nat. Hist., **3**, December, 1890, p. 177.

Type locality—Santa Cruz del Valle, Guadalajara, Jalisco, Mexico.

Range—Lower Sonoran zone near Colorado River: Needles, San Bernardino County (Mus. Vert. Zool.).

Myotis occultus Hollister

Hollister Bat

Original description—*Myotis occultus* Hollister, Proc. Biol. Soc. Wash., **22**, March 10, 1909, pp. 43, 44.

Type locality—West side of Colorado River ten miles above Needles, San Bernardino County, California.

Range—Lower Sonoran zone: valley of the Colorado River from near Needles (as above) to near Yuma (Mus. Vert. Zool.).

Myotis lucifugus longicrus (True)

Long-legged Bat

Original description—*Vespertilio longicrus* True, Science, **8**, December 24, 1886, p. 588.

Type locality—Puget Sound, Washington.

Synonyms—*Vespertilio albescens,* part; True Bat; Long-shanked Bat.

Range—Transition and high Upper Sonoran zones throughout northern California and south along the Sierra Nevada and coast ranges to the San Jacinto and Cuyamaca mountains (Mus. Vert. Zool.; Miller, N. Amer. Fauna, **13**, 1897, p. 65).

Myotis yumanensis yumanensis (H. Allen)

Yuma Bat

Original description—*Vespertilio yumanensis* H. Allen, Smithsonian Misc. Coll., **7**, June, 1864, p. 58.

Type locality—Fort Yuma, Imperial County, California.

Synonym—*Vespertilio albescens,* part.

Range—Lower and Upper Sonoran zones throughout southern California, both east and west of the desert divides; north through Owens Valley and through the San Joaquin and Sacramento valleys at least as far as Oroville, Butte County (Mus. Vert. Zool.; Miller, N. Amer. Fauna, **13**, 1897, p. 67). Probably migratory.

Myotis yumanensis saturatus Miller

Miller Bat

Original description—*Myotis yumanensis saturatus* Miller, N. Amer. Fauna, **13**, October, 1897, p. 68.

Type locality—Hamilton, Skagit County, Washington.

Range—Transition and Boreal zones in extreme northwestern California, west to Cuddeback, Humboldt County (Mus. Vert. Zool.), east to Mount Shasta (Merriam, N. Amer. Fauna, **16**, 1899, p. 89).

Myotis californicus californicus (Audubon and Bachman)

Little California Bat

Original description—*Vespertilio californicus* Audubon and Bachman, Journ. Acad. Nat. Sci. Phila., **8**, 1842, pp. 285, 286.

Type locality—California.

Synonyms—*Vespertilio oregonensis* (?); *Vespertilio nitidus* H. Allen, Proc. Acad. Nat. Sci. Phila., April, 1862, pp. 247, 248 (type from Monterey); *Vespertilio albescens melanorhinus.*

Range—Upper Sonoran and Transition zones almost throughout the state west of the desert divides, including the San Diegan district, the Santa Barbara Islands, and both the Sierra Nevada and coast ranges.

Myotis californicus pallidus Stephens

Stephens Little Pallid Bat

Original description—*Myotis californicus pallidus* Stephens, Proc. Biol. Soc. Wash., **13**, June 13, 1900, p. 153.

Type locality—Vallecito, eastern San Diego County, California.

Synonym—Myotis californicus, part.

Range—Lower Sonoran zone on Colorado and Mohave deserts, north to Owens Valley (Mus. Vert. Zool.). It is not improbable that the above name will have to be replaced by some one of H. Allen's earlier names.

Myotis orinomus Elliot

La Grulla Brown Bat

Original description—Myotis orinomus Elliot, Field Col. Mus., zool. ser., 3, June, 1903, p. 228.

Type locality—La Grulla, 8000 feet, San Pedro Martir Mountains, Lower California, Mexico.

Synonyms—Myotis californicus, part; *Myotis lucifugus longicrus,* part.

Range—High Upper Sonoran zone, in its semi-arid portion, along the southern Sierra Nevada in Kern and Inyo counties, in the San Jacinto and San Bernardino mountains, and at Dulzura, San Diego County (Grinnell and Swarth, Univ. Calif. Publ. Zool., **10**, 1912, pp. 138-141).

Myotis evotis (H. Allen)

Long-eared Bat

Original description—Vespertilio evotis H. Allen, Smithsonian Misc. Coll., 7, June, 1864, p. 48.

Type locality—Monterey, California (see Miller, N. Amer. Fauna, **13**, 1897, pp. 77, 78).

Synonym—Vespertilio albescens evotis, part.

Range—Upper Sonoran and Transition zones from the Mexican line northwards as far as Mount Shasta; west to Pescadero Creek, San Mateo County; east to Independence Lake, Nevada County (Mus. Vert. Zool.); also Owens Lake and Inyo Mountains (Miller, *supra cit.,* p. 80).

Myotis thysanodes Miller

Fringed Bat

Original description—Myotis thysonodes Miller, N. Amer. Fauna, **13**, October, 1897, pp. 80-84.

Type locality—Fort Tejon, Kern County, California.

Synonyms—*Vespertilio albescens velifer*, part; *Vespertilio albescens evotis*, part.

Range—Upper Sonoran zone in southern California near the desert divide; known only from Fort Tejon, Kern County, and Dulzura, San Diego County (Miller, *supra cit.*).

Lasionycteris noctivagans (Le Conte)

Silver-haired Bat

Original description—"*Vespertilio noctivagans* Le Conte, McMurtrie's Cuvier's Animal Kingdom, **1**, June, 1831, p. 431."

Type locality—"Eastern United States."

Range—Chiefly Transition zone in northwestern California, south to Nicasio, Marin County, and Nevada City, Nevada County (Miller, N. Amer. Fauna, **13**, 1897, p. 86); east to Mount Shasta and to Oroville, Butte County (Mus. Vert. Zool.). Records for summer only.

Pipistrellus hesperus hesperus (H. Allen)

Canyon Bat

Original description—*Scotophilus hesperus* H. Allen, Smithsonian Misc. Coll., **7**, June, 1864, pp. 43, 44.

Type locality—Fort Yuma, Imperial County, California.

Synonyms—*Vesperugo hesperus*, part; Western Bat, part.

Range—Lower Sonoran zone east of the San Diegan district, on the Colorado and Mohave deserts, from the Mexican line north to the vicinity of Walker Pass and Owens Valley; west to Santa Rosa Mountains, Riverside County, and Fort Tejon, Kern County (Mus. Vert. Zool.).

Pipistrellus hesperus merriami (Dobson)

Merriam Bat

Original description—*Vesperugo merriami* Dobson, Ann. and Mag. Nat. Hist., 5th ser., **18**, 1886, p. 124.

Type locality—Red Bluff, Tehama County, California (*fide* Miller, N. Amer. Fauna, **13**, 1897, p. 31).

Synonyms—*Vesperugo hesperus*, part; *Pipistrellus hesperus*, part; Western Bat, part.

Range—Lower and Upper Sonoran zones west of the desert divides, from the Mexican line northwest through the San Diegan district, and through the San Joaquin and Sacramento valleys, east of the humid coast belt and west of the Sierra Nevada, to Butte and Tehama counties (Mus. Vert. Zool.).

Eptesicus fuscus fuscus (Beauvois)

Large Brown Bat

Original description—"*Vespertilio fuscus* Beauvois, Catal. Peale's Museum, Phila., 1796, p. 14."

Type locality—"Philadelphia, Pennsylvania."

Synonyms—*Eptesicus fuscus bernardinus* Rhoads, Proc. Acad. Nat. Sci. Phila., December, 1901, p. 619 (type from San Bernardino Valley, San Bernardino County, California); *Eptesicus fuscus melanopterus* Rehn, Proc. Acad. Nat. Sci. Phila., October 17, 1904, pp. 590, 591 (type from Mount Tallac, Eldorado County, California); *Adelonycteris fuscus;* San Bernardino Brown Bat; Black-winged Bat.

Range—Practically throughout the state, but chiefly Upper Sonoran and Transition zones. While there are very probably two or more subspecies, it is not possible at this writing to define them satisfactorily.

Nycteris borealis teliotis (H. Allen)

Western Red Bat

Original description—*Atalapha teliotis* H. Allen, Proc. Amer. Philos. Soc., 29, 1891, pp. 5, 6.

Type locality—Not known, but probably southern California.

Synonym—*Lasiurus borealis teliotis.*

Range—In winter and spring: Sacramento and San Joaquin valleys, from Sutter County southwards, and throughout the San Diegan district (Mus. Vert. Zool.). Evidently migratory.

Nycteris cinerea (Beauvois)

Hoary Bat

Original description—"*Vespertilio cinereus* Beauvois, Catal. Peale's Museum, Phila., 1796, p. 14."

Type locality—"Philadelphia, Pennsylvania."

Synonyms—*Atalapha cinerea; Lasiurus cinereus.*

Range—In winter and spring: valleys of west-central and southern California, south through the San Diegan district (Mus. Vert. Zool.); in summer, probably Transition and Boreal zones (see Stephens, Calif. Mammals, 1906, p. 272). Recorded without dates of capture north to Eureka, Humboldt County, and east to Panamint Mountains, Inyo County (Miller, N. Amer. Fauna, 13, 1897, p. 114).

Euderma maculatum (J. A. Allen)

Spotted Bat

Original description—*Histiotus maculatus* Allen, Bull. Amer. Mus. Nat. Hist., 3, February 20, 1891, pp. 195-198.

Type locality—Mouth of Castac Creek, Santa Clara Valley, Los Angeles County, California (*fide* Merriam, N. Amer. Fauna, 13, 1897, p. 49).

Range—Arid Lower Sonoran zone; besides the type, secured as above, only one other specimen has been found within this state, at Mecca, Riverside County (Grinnell, Univ. Calif. Publ. Zool., 5, 1910, pp. 317, 318, pl. 30).

Corynorhinus macrotis pallescens Miller

Pale Lump-nosed Bat

Original description—*Corynorhinus macrotis pallescens* Miller, N. Amer. Fauna, 13, October, 1897, p. 52.

Type locality—Keam Canyon, Navajo County, Arizona.

Synonym—Pallid Big-eared Bat.

Range—Lower and Upper Sonoran zones throughout southern California, north into Owens Valley (Miller, *supra cit.*), west through the San Diegan district to Santa Catalina Island (Mus. Vert. Zool.).

Corynorhinus macrotis townsendi (Cooper)

Northwestern Lump-nosed Bat

Original description—*Plecotis townsendii* Cooper, Ann. Lyc. Nat. Hist. N. Y., 4, April, 1837, pp. 73, 74.

Type locality—Columbia River, Oregon.

Range—Upper Sonoran zone in west-central California: near Auburn, Placer County (Mus. Vert. Zool.).

August 26, 1913.

Antrozous pallidus pallidus (Le Conte)

Desert Pallid Bat

Original description—*Vespertilio pallidus* Le Conte, Proc. Acad. Nat. Sci. Phila., 7, December, 1855, p. 437.

Type locality—El Paso, El Paso County, Texas (*fide* Miller, Bull. 79, U. S. Nat. Mus., 1912, p. 68).

Synonym—Pale Bat; Big-eared Pale Bat.

Range—Lower Sonoran zone on the Colorado and Mohave deserts, north to Swansea, Inyo County, and west to Vallecito, eastern San Diego County (Mus. Vert. Zool.).

Antrozous pallidus pacificus Merriam

Pacific Pallid Bat

Original description—*Antrozous pallidus pacificus* Merriam, Proc. Biol. Soc. Wash., **11**, July 1, 1897, p. 180.

Type locality—Fort Tejon, Kern County, California.

Synonym—*Antrozous pallidus,* part.

Range—Lower and Upper Sonoran zones on the Pacific slope of California, from the Mexican line north through the San Diegan district and central coast district as far as Palo Alto and Oakland; also through the San Joaquin and Sacramento valleys to Fort Crook (near Burgettville), Shasta County (Mus. Vert. Zool.; Miller, N. Amer. Fauna, **13**, 1897, p. 45). Migratory.

Family MOLOSSIDAE

Nyctinomus femorosaccus Merriam

Pocketed Bat

Original description—*Nyctinomus femorosaccus* Merriam, N. Amer. Fauna, **2**, October, 1889, p. 23.

Type locality—Agua Caliente (=Palm Springs), Riverside County, California.

Synonyms—*Nyctinomops femorosaccus;* Palm Springs Free-tailed Bat.

Range—Lower Sonoran zone on the Colorado Desert at and near Palm Springs; only two specimens known (see Stephens, Calif. Mammals, 1906, p. 274; Elliot, Field Col. Mus., zool. ser., **3**, 1904, p. 321).

Nyctinomus depressus Ward

Tacubaya Free-tailed Bat

Original description—Nyctinomus depressus Ward, Amer. Nat., **25**, August, 1891, pp. 747-750.

Type locality—Tacubaya, Federal District, Mexico.

Synonyms—Nyctinomus macrotis nevadensis H. Allen, Bull. U. S. Nat. Mus., **43**, 1893 [=March, 1894], pp. 171-174, pls. 34, 35 (type from California, but exact locality not known: *fide* Lyon and Osgood, Bull. U. S. Nat. Mus., **62**, 1909, p. 280); Nevada Bat.

Range—Probably the southeastern deserts; but only the one indefinite record, as above.

Nyctinomus mexicanus Saussure

Mexican Free-tailed Bat

Original description—"*Nyctinomus mexicanus* Saussure, Rev. et Mag. de Zool., 2nd ser., **12**, 1860, p. 283."

Type locality—Ameca, Jalisco, Mexico (*fide* Miller, Bull. 79, U. S. Nat. Mus., 1912, p. 70).

Synonyms—Nyctinomus mohavensis Merriam, N. Amer. Fauna, **2**, October, 1889, p. 25 (type from Fort Mohave, Arizona); *Nyctinomus brasiliensis californicus* H. Allen, Bull. U. S. Nat. Mus., **43**, 1893 [=March, 1894], p. 166 (no type designated); *Nyctinomops mohavensis;* Mohave Bat.

Range—In spring and summer: Upper and Lower Sonoran zones, chiefly the latter, throughout southern California, both east and west of the desert divides, north at least to Marysville Buttes, Sutter County, and west to Palo Alto, Santa Clara County (Mus. Vert. Zool.). Doubtless migratory, at least in part.

Eumops californicus (Merriam)

California Mastiff Bat

Original description—Molossus californicus Merriam, N. Amer. Fauna, **4**, October 8, 1890, pp. 31, 32.

Type locality—Alhambra, Los Angeles County, California.

Synonyms—Promops californicus; Promops perotis californicus; Bonnet Bat.

Range—Lower Sonoran zone of southern California; most numerous in the San Diegan district, but noted also on the Colorado Desert, in the San Joaquin Valley, and in Kern and Fresno counties (Mus. Vert. Zool.); northernmost station, Fresno.

Order CARNIVORA

Family URSIDAE

Ursus horribilis californicus Merriam

California Grizzly

Original description—[*Ursus horribilis*] *californicus* Merriam, Proc. Biol. Soc. Wash., **10**, April 13, 1896, p. 76, fig. 15.

Type locality—Monterey, California.

Synonyms—*Ursus horribilis; Ursus horribilis horriaeus;* Grizzly Bear.

Range—Formerly almost throughout the state, except the southeastern deserts and the extreme northwestern humid coast belt. Zone, mostly Upper Sonoran and lower Transition. Now probably extinct.

Ursus americanus altifrontalis Elliot

Northwestern Black Bear

Original description—*Ursus altifrontalis* Elliot, Field Col. Mus., zool. ser., **3**, June, 1903, pp. 234, 235.

Type locality—Shore of Lake Crescent, Clallam County, Washington.

Synonyms—*Ursus americanus; Ursus cinnamoneus;* Cinnamon Bear; Brown Bear; Black Bear.

Range—Chiefly Transition and Boreal zones of northwestern California north of San Francisco Bay, and south along the Sierra Nevada at least as far as the Tehachapi Mountains, in Kern County. It is possible that the black bears of the Sierra Nevada belong to a separate and unnamed subspecies.

Family CANIDAE

Canis gigas (Townsend)

Northwestern Timber Wolf

Original description—*Lupus gigas* Townsend, Journ. Acad. Nat. Sci. Phila., n. s., **2**, November, 1850, pp. 75, 76.

Type locality—Fort Vancouver, Clarke County, Washington (see Miller, Smithsonian Misc. Colls., **59**, 1912, pp. 2, 4).

Synonyms—*Canis mexicanus; Canis nubilis; Canis lupus grisco-albus;* Gray Wolf.

Range—Northern California, and south along the Sierra Nevada. Now rare or extinct. The number of records (e. g., Price, Zoe, **4**, 1894, p. 331) and reports from the region specified carries conviction that a wolf of some form has occurred as above indicated. But lack of specimens brings doubt as to the race represented.

Canis latrans lestes Merriam

Mountain Coyote

Original description—*Canis lestes* Merriam, Proc. Biol. Soc. Wash., **11**, March 15, 1897, pp. 25, 26.

Type locality—Toyabe Mountains, near Cloverdale, Nye County, Nevada.

Range—Transition and Boreal zones of the Modoc region, west to Mount Shasta (Merriam, N. Amer. Fauna, **16**, 1899, p. 103) and south along the Sierra Nevada at least to Monache Meadows, Tulare County (Mus. Vert. Zool.).

Canis ochropus ochropus Eschscholtz

California Valley Coyote

Original description—*Canis ochropus* Eschscholtz, Zool. Atlas, **3**, 1829, pp. 1, 2, pl. 11.

Type locality—Tracy, San Joaquin County, California (fixed by Merriam, Proc. Biol. Soc. Wash., **11**, 1897, p. 32).

Synonyms—*Canis mearnsi;* Mearns Coyote; Valley Coyote.

Range—Throughout California west of the high Sierra Nevada, and south through the San Diegan district and included mountains to the Mexican line. Zone, chiefly Lower and Upper Sonoran, locally Transition. There is probably a slightly differentiated race in the San Diegan district (referred to *Canis mearnsi* by Stephens, Calif. Mammals, 1906, p. 216).

Canis ochropus estor Merriam

Desert Coyote

Original description—*Canis estor* Merriam, Proc. Biol. Soc. Wash., **11**, March 15, 1897, pp. 31, 32.

Type locality—Noland's Ranch, San Juan River, San Juan County, Utah.

Range—Lower Sonoran zone on the Colorado and Mohave deserts, west to Antelope Valley, northern Los Angeles County, and north through the Inyo region (Mus. Vert. Zool.).

Vulpes cascadensis Merriam

Cascade Red Fox

Original description—*Vulpes cascadensis* Merriam, Proc. Wash. Acad. Sci., 2, December 28, 1900, pp. 665, 666, pl. 36, fig. 3.

Type locality—Trout Lake, base of Mount Adams, Skamania County, Washington.

Synonyms—*Vulpes macrourus;* Mountain Red Fox.

Range—High Transition and Boreal zones on the northern Sierra Nevada, south as far as Mount Raymond, in Mariposa County (Merriam, *supra cit.*).

Vulpes necator Merriam

High Sierra Red Fox

Original description—*Vulpes necator* Merriam, Proc. Wash. Acad. Sci., 2, December 28, 1900, pp. 664, 665, pl. 36, fig. 2.

Type locality—Whitney Meadows, 9500 feet altitude, Sierra Nevada, Tulare County, California.

Range—Boreal zone of the southern Sierra Nevada, from Monache Meadows, Tulare County (Mus. Vert. Zool.), north at least to Atwell's Mill, East Fork Kaweah River, Tulare County (Merriam, *supra cit.*).

Vulpes macrotis macrotis Merriam

Long-eared Kit Fox

Original description—*Vulpes macrotis* Merriam, Proc. Biol. Soc. Wash., 4, 1888, pp. 135–138.

Type locality—Riverside, Riverside County, California.

Range—Lower Sonoran zone in the San Diegan district, northwest to Los Angeles County.

Vulpes macrotis muticus Merriam

San Joaquin Kit Fox

Original description—*Vulpes muticus* Merriam, Proc. Biol. Soc. Wash., **15**, March 22, 1902, p. 74.

Type locality—Tracy, San Joaquin County, California.

Range—Lower Sonoran zone in the San Joaquin Valley.

Vulpes macrotis arsipus Elliot

Mohave Desert Kit Fox

Original description—*Vulpes arsipus* Elliot, Field Col. Mus., zool. ser., **3**, December, 1903, p. 256.

Type locality—Daggett, Mohave Desert, San Bernardino County, California.

Range—Lower Sonoran zone on the Colorado and Mohave deserts, west to Palm Springs, Riverside County (Mus. Vert. Zool.), and north to the Panamint Mountains, Inyo County (Elliot, *supra cit.*).

Urocyon cinereoargenteus townsendi Merriam

Townsend Gray Fox

Original description—*Urocyon californicus townsendi* Merriam, N. Amer. Fauna, **16**, October, 1899, pp. 103, 104.

Type locality—Baird, Shasta County, California.

Range—Transition and Upper Sonoran zones in extreme northern California, from the interior of Humboldt County east to the vicinity of Mount Shasta (Mus. Vert. Zool.).

Urocyon cinereoargenteus sequoiensis Dixon

Redwood Gray Fox

Original description—*Urocyon californicus sequoiensis* Dixon, Univ. Calif. Publ. Zool., **5**, February 12, 1910, pp. 303–305.

Type locality—Lagunitas, Marin County, California.

Synonyms—*Urocyon californicus*, part; *Vulpes virginianus; Urocyon cinereoargenteus californicus*, part.

Range—High Upper Sonoran and Transition zones in the humid coast belt of west-central California, from Monterey Bay north to Lake County (Dixon, *supra cit.*).

Urocyon cinereoargenteus californicus Mearns

California Gray Fox

Original description—*Urocyon cinereoargenteus californicus* Mearns, Proc. U. S. Nat. Mus., **20**, January 12, 1897, pp. 459, 460.

Type locality—8000 feet altitude, in San Jacinto Mountains, Riverside County, California.

Synonyms—*Urocyon californicus; Urocyon virginianus littoralis.*

Range—Upper Sonoran and Transition zones in southern and central California west of the desert divides, and east and south of the humid coast belt.

Urocyon cinereoargenteus scotti Mearns

Arizona Gray Fox

Original description—*Urocyon virginianus scotti* Mearns, Bull. Amer. Mus. Nat. Hist., **3**, May, 1891, pp. 236–238.

Type locality—Pinal County, Arizona.

Synonyms—*Urocyon cinereo-argenteus inyoensis* Elliot, Field Col. Mus., zool. ser., **3**, March, 1904, pp. 268, 269 (type from Beveridge Canyon, Inyo Mountains, Inyo County, California); Inyo Mountains Gray Fox.

Range—Lower and Upper Sonoran zones on the Colorado and Mohave deserts and included mountains, from the Mexican line north to Inyo County, and west to the east line of the San Jacinto Mountains in Riverside County (Mus. Vert. Zool.).

Urocyon littoralis littoralis (Baird)

San Miguel Island Fox

Original description—*Vulpes (Urocyon) littoralis* Baird, Pac. R. R. Rep., **8**, 1857, pp. 143–145.

Type locality—San Miguel Island, Santa Barbara Islands, California.

Synonyms—Coast Fox; Short-tailed Fox.

Range—San Miguel Island.

Urocyon littoralis santacruzae Merriam

Santa Cruz Island Fox

Original description—*Urocyon littoralis santacruzae* Merriam, Proc. Biol. Soc. Wash., **16**, May 29, 1903, p. 75.

Type locality—Santa Cruz Island, Santa Barbara Islands, California.

Range—Santa Cruz Island.

Urocyon catalinae Merriam

Santa Catalina Island Fox

Original description—*Urocyon catalinae* Merriam, Proc. Biol. Soc. Wash., **16**, May 29, 1903, p. 74.

Type locality—Santa Catalina Island, Santa Barbara Islands, California.

Range—Santa Catalina Island.

Urocyon clementae Merriam

San Clemente Island Fox

Original description—*Urocyon clementae* Merriam, Proc. Biol. Soc. Wash., **16**, May 29, 1903, p. 75.

Type locality—San Clemente Island, Santa Barbara Islands, California.

Range—San Clemente Island.

Family PROCYONIDAE

Bassariscus astutus raptor (Baird)

California Ring-tailed Cat

Original description—*Bassaris raptor* Baird, Mammals Mex. Boundary, 1859, p. 19.

Type locality—Northern California (see Merriam, Proc. Biol. Soc. Wash., **11**, 1897, pp. 186, 187).

Synonyms—*Bassariscus flavus oregonus; Bassariscus astutus; Bassaris astuta;* Civet Cat; Raccoon-fox.

Range—Upper Sonoran and lower Transition zones west of the Sierran divides, from the San Diegan district north nearly to the Oregon line, though at the north chiefly east of the humid coast belt.

Procyon psora psora Gray

California Coon

Original description—Procyon psora Gray, Ann. and Mag. Nat. Hist., **10**, 1842, p. 261.

Type locality—Sacramento, California.

Synonyms—Procyon lotor; Procyon lotor hernandezi; California Raccoon.

Range—Lower Sonoran, Upper Sonoran and lower Transition zones throughout California, except the northern border and the southeastern deserts.

Procyon psora pacifica Merriam

Pacific Coon

Original description—Procyon psora pacifica Merriam, N. Amer. Fauna, **16**, October, 1899, p. 107.

Type locality—Keechelus Lake, Cascade Mountains, Kittitas County, Washington.

Range—Upper Sonoran and Transition zones along northern border of the state, south as far as Pitt River, Shasta County (Merriam, *supra cit.*).

Procyon pallidus Merriam

Pallid Coon

Original description—Procyon pallidus Merriam, Proc. Biol. Soc. Wash., **13**, June 13, 1900, pp. 151, 152.

Type locality—New River, Colorado Desert, Imperial County, California.

Synonyms—Desert Raccoon; *Procyon lotor pallidus.*

Range—Lower Sonoran zone on the Colorado Desert, in Imperial County, and north along the Colorado River at least to Needles (Mus. Vert. Zool.).

Family MUSTELIDAE

Martes caurina caurina (Merriam)

Northwestern Pine Marten

Original description—Mustela caurina Merriam, N. Amer. Fauna, **4**, October, 1890, pp. 27–29.

Type locality—Near Gray's Harbor, Chehalis County, Washington.

Synonym—*Mustela americanus.*

Range—Transition and Boreal zones in northwestern California, south to Mendocino County, east to Mount Shasta (Merriam, N. Amer. Fauna, **16**, 1899, p. 106), south over the central Sierra Nevada (Price, Zoe, **4**, 1894, p. 331).

Martes pennanti pacifica (Rhoads)

Pacific Fisher

Original description—*Mustela canadensis pacifica* Rhoads, Trans. Amer. Philos. Soc., n. s., **19**, September, 1898, pp. 435, 436.

Type locality—Lake Kichelos (=Keechelus), Kittitas County, Washington.

Synonyms—*Mustela pennanti; Mustela pennanti pacifica;* Pennant Marten.

Range—Transition and Boreal zones in northwestern California, south to Trinity County (Mus. Vert. Zool.), and along the Sierra Nevada, from Mount Shasta (Merriam, N. Amer. Fauna, **16**, 1899, p. 106) south at least to Eldorado County (Price, Zoe, **4**, 1894, p. 331).

Gulo luscus luteus Elliot

Sierra Nevada Wolverine

Original description—*Gulo luteus* Elliot, Field Col. Mus., zool. ser., **3**, December, 1903, p. 260.

Type locality—Crater Meadows (=Groundhog Meadow), Whitney Creek (=Golden Trout Creek), Sierra Nevada, Tulare County, California (see Elliot, *supra cit.*, p. 280).

Synonym—*Gulo luscus.*

Range—Boreal zone on the Sierra Nevada, from the vicinity of Mount Shasta (Merriam, N. Amer. Fauna, **16**, 1899, p. 105), south through the Lake Tahoe region (Belding, Zoe, **1**, December, 1890, p. 303; Price, Zoe, **4**, March, 1894, p. 331) to Monache Meadows, Tulare County (Mus. Vert. Zool.).

Mustela muricus (Bangs)

Sierra Least Weasel

Original description—Putorius (Arctogale) muricus Bangs, Proc. New Eng. Zool. Club, **1**, July 31, 1899, p. 71.

Type locality—Echo, Eldorado County, California.

Synonym—Putorius muricus.

Range—Known only from the type locality, as above.

Mustela arizonensis (Mearns)

Mountain Weasel

Original description—Putorius arizonensis Mearns, Bull. Amer. Mus. Nat. Hist., **3**, May, 1891, pp. 234, 235.

Type locality—San Francisco forest, near Flagstaff, Coconino County, Arizona.

Synonyms—Arizona Weasel; *Putorius brasiliensis frenatus.*

Range—Transition and Boreal zones along the Sierra Nevada, from Mount Shasta (Merriam, N. Amer. Fauna, **16**, 1899, p. 106) south to Tulare County, and the San Jacinto Mountains, Riverside County (Mus. Vert. Zool.).

Mustela xanthogenys xanthogenys Gray

California Weasel

Original description—Mustela xanthogenys Gray, Ann. and Mag. Nat. Hist., **11**, 1843, p. 118.

Type locality—Southern California, probably near San Diego (*fide* Merriam, N. Amer. Fauna, **11**, 1896, p. 25).

Synonyms—Yellow-cheeked Weasel; *Putorius xanthogenys.*

Range—Lower and Upper Sonoran zones west of the desert divides, from the Mexican line north through the San Diegan district, and west-central California east of the northern humid coast belt, at least to the head of the Sacramento Valley.

Mustela xanthogenys munda (Bangs)

Redwood Weasel

Original description—Putorius xanthogenys mundus Bangs, Proc. New Eng. Zool. Club, **1**, June 9, 1899, pp. 56, 57.

Type locality—Point Reyes, Marin County, California.

Range—Transition zone in the humid coast belt north of San Francisco Bay: Point Reyes and Nicasio, Marin County (Bangs, *supra cit.*), north to Humboldt Bay (Mus. Vert. Zool.). It is possible that the weasels of the region immediately south of San Francisco Bay also belong here.

Mustela vison energumenos (Bangs)

Pacific Mink

Original description—*Putorius vison energumenos* Bangs, Proc. Boston Soc. Nat. Hist., **27**, March, 1896, p. 5.

Type locality—Sumas, British Columbia, Canada.

Synonyms—*Putorius vison; Lutreola vison energumenos;* American Mink.

Range—Northern California along streams generally, south to Petaluma, Sonoma County, through the Sacramento and San Joaquin valleys at least to Stanislaus County, along the Sierra Nevada to Kern River in Tulare County, and through Owen's Valley at least to Fish Springs, near Big Pine, Inyo County (Mus. Vert. Zool.).

Spilogale gracilis gracilis Merriam

Canyon Spotted Skunk

Original description—*Spilogale gracilis* Merriam, N. Amer. Fauna, **3**, August, 1890, p. 83.

Type locality—Grand Canyon of the Colorado, Arizona, north of San Francisco Mountain.

Range—Sonoran zones of the Inyo region: Inyo and Panamint mountains, Inyo County (Howell, N. Amer. Fauna, **26**, 1906, p. 23).

Spilogale gracilis saxatilis Merriam

Great Basin Spotted Skunk

Original description—*Spilogale saxatilis* Merriam, N. Amer. Fauna, **4**, October, 1890, p. 13.

Type locality—Provo, Utah County, Utah.

Range—Extreme northeastern corner of the state in Upper Sonoran zone: Susanville, Lassen County (Howell, N. Amer. Fauna, **26**, 1906, p. 23).

Spilogale arizonae arizonae Mearns

Arizona Spotted Skunk

Original description—*Spilogale phenax arizonae* Mearns, Bull. Amer. Mus. Nat. Hist., 3, June, 1891, pp. 256, 257.

Type locality—Fort Verde, Yavapai County, Arizona.

Range—Valley of lower Colorado River, near Pilot Knob, Imperial County: Lower Sonoran zone (Mus. Vert. Zool.).

Spilogale phenax phenax Merriam

California Spotted Skunk

Original description—*Spilogale phenax* Merriam, N. Amer. Fauna, 4, October, 1890, pp. 13, 14.

Type locality—Nicasio, Marin County, California.

Synonyms—*Mephitis bicolor; Mephitis zorilla;* Hydrophobia Skunk; Western Spotted Skunk; Little Spotted Skunk, part.

Range—Lower and Upper Sonoran zones and, at the north, Transition, throughout southern and west-central California west of the desert divides, from the Mexican line north through the San Diegan district and along the western slopes of the Sierra Nevada and the central and northern coast strips to Shasta and Humboldt counties (Howell, N. Amer. Fauna, 26, 1906, p. 32; Mus. Vert. Zool.).

Spilogale phenax latifrons Merriam

Oregon Spotted Skunk

Original description—*Spilogale phenax latifrons* Merriam, N. Amer. Fauna, 4, October, 1890, p. 15.

Type locality—Roseburg, Douglas County, Oregon.

Synonym—Little Spotted Skunk, part.

Range—Extreme northwestern border of the state, in Siskiyou County: Siskiyou Mountains and Hornbrook (Howell, N. Amer. Fauna, 26, 1906, p. 33).

Mephitis estor Merriam

Arizona Striped Skunk

Original description—*Mephitis estor* Merriam, N. Amer. Fauna, 3, August, 1890, pp. 81, 82.

Type locality—San Francisco Mountain, Coconino County, Arizona.

Range—Extreme Lower Sonoran zone: Valley of the lower Colorado River, from Needles to the Mexican line (Mus. Vert. Zool.).

Mephitis occidentalis occidentalis Baird

Northern California Striped Skunk

Original description—*Mephitis occidentalis* Baird, Pac. R. R. Rep., **8**, 1857, p. 194.

Type locality—Petaluma, Sonoma County, California.

Synonyms—*Chincha occidentalis;* California Skunk.

Range—Upper Sonoran and Transition zones of the west-central and northern portions of the state, from about the latitude of Monterey Bay north to the Oregon line, east to Shasta Valley and the main Sierra Nevada (Howell, N. Amer. Fauna, **20**, 1901, pp. 34, 35; Mus. Vert. Zool.).

Mephitis occidentalis major (Howell)

Great Basin Striped Skunk

Original description—*Chincha occidentalis major* Howell, N. Amer. Fauna, **20**, August 31, 1901, pp. 37, 38.

Type locality—Fort Klamath, Klamath County, Oregon.

Range—Upper Sonoran and Transition zones in the Modoc region of northeastern California; west to Lassen Creek, Shasta County, south to Sierra Valley, Plumas County (Howell, *supra cit.;* Mus. Vert. Zool.).

Mephitis occidentalis holzneri Mearns

Southern California Striped Skunk

Original description—*Mephitis occidentalis holzneri* Mearns, Proc. U. S. Nat. Mus., **20**, January 12, 1897, p. 461.

Type locality—San Isidro Ranch, near United States boundary, Lower California, Mexico.

Synonyms—*Chincha occidentalis holzneri;* Lower California Skunk.

Range—Lower Sonoran, Upper Sonoran and Transition zones in southern California chiefly west of the deserts proper, from the Mexican line north to about the latitude of Monterey; east to the southern Sierra Nevada and the western edges of the Mohave and Colorado deserts (Howell, N. Amer. Fauna, **20**, 1901, p. 38; Mus. Vert. Zool.).

Mephitis platyrhina (Howell)

Broad-nosed Striped Skunk

Original description—*Chincha platyrhina* Howell, N. Amer. Fauna, **20**, August 31, 1901, p. 39.

Type locality—South Fork of Kern River, 25 miles east of Kernville, Kern County, California.

Range—Lower Sonoran zone about southern end of Sierra Nevada; recorded only from valley of the South Fork of the Kern River, in Kern County, and from Owens Valley and Owens Lake, in Inyo County (Howell, *supra cit.*).

Taxidea taxus neglecta Mearns

California Badger

Original description—*Taxidea americana neglecta* Mearns, Bull. Amer. Mus. Nat. Hist., **3**, June, 1891, pp. 250, 251.

Type locality—Fort Crook (near Burgettville), Shasta County, California.

Synonyms—*Taxidea americana; Taxidea taxus*; Western Badger; American Badger.

Range—Chiefly Sonoran and Transition zones, casually Boreal, east and south of the humid coast belt, and northwest of the Colorado Desert; in other words, interior valleys, from the Oregon line east of the humid coast belt to the Mexican line west of the Colorado Desert; occurs both east and west of the Sierra Nevada (Mus. Vert. Zool.).

Taxidea taxus berlandieri Baird

Mexican Badger

Original description—*Taxidea berlandieri* Baird, Pac. R. R. Rep., **8**, 1857, p. 205.

Type locality—Llano Estacado, Texas, near border of New Mexico .

Range—Lower Sonoran zone on the Colorado Desert: Imperial Valley and north along the Colorado River at least to vicinity of Picacho (Mus. Vert. Zool.).

Lutra canadensis pacifica Rhoads

Pacific River Otter

Original description—*Lutra hudsonica pacifica* Rhoads, Trans. Amer. Philos. Soc., n. s., **19**, September, 1898, pp. 429–431.

Type locality—Lake Kichelos (=Keechelus), Kittitas County, Washington.

Synonyms—*Lutra californica; Lutra canadensis;* California Otter.

Range—Streams of northern California, south at least to Mendocino County, and through the Sacramento and San Joaquin valleys to the San Joaquin River, Fresno County.

Latax lutris nereis Merriam

Southern Sea Otter

Original description—*Latax lutris nereis* Merriam, Proc. Biol. Soc. Wash., **17**, October 6, 1904, p. 159.

Type locality—San Miguel Island, Santa Barbara Islands, California.

Synonyms—*Latax lutris; Enhydra lutris; Enhydra marina;* San Miguel Island Sea Otter.

Range—In the ocean along the exposed seashore and neighboring islands the whole length of the state, especially about the Santa Barbara and Farallon islands (see Scammon, Marine Mammals, 1874, pp. 168–174). Formerly abundant, now rare. It is possible that the animals which occurred off the northern California coast belonged to the northern subspecies.

Family FELIDAE

Felis oregonensis oregonensis Rafinesque

Northwestern Cougar

Original description—"*Felix* [=*Felis*] *oregonensis* Rafinesque, Atlantic Journal, **1**, 1832, p. 62."

August 26, 1913.

Type locality—Northwestern coast of the United States (*fide* Stone, Science, n. ser., **9**, 1899, p. 35.)

Synonyms—*Felis concolor,* part; *Felis concolor oregonensis,* part; *Felis hippolestes olympus;* Pacific Coast Cougar; Northwestern Puma; Mountain Lion, part.

Range—Throughout the state except for the lower southeastern deserts. Ranges through all zones, though perhaps most plentiful in Upper Sonoran and Transition.

Felis oregonensis browni Merriam

Yuma Cougar

Original description—*Felis aztecus browni* Merriam, Proc. Biol. Soc. Wash., **16**, May 29, 1903, pp. 73, 74.

Type locality—Lower Colorado River, 12 miles south of Yuma, Arizona.

Synonyms—*Felis concolor,* part; *Felis concolor oregonensis,* part; Mountain Lion, part; Brown Cougar.

Range—Lower Sonoran zone on the Colorado Desert, and north along the Colorado River (Mus. Vert. Zool.).

Lynx fasciatus oculeus Bangs

Southern Barred Wildcat

Original description—*Lynx (Cervaria) fasciatus oculeus* Bangs, Proc. New Eng. Zool. Club, **1**, March 31, 1899, pp. 23, 24.

Type locality—Nicasio, Marin County, California.

Synonyms—*Felis rufa oculea;* Sharp-sighted Lynx.

Range—Upper Sonoran and Transition zones of the northwestern coast belt, from Marin County north probably to the Oregon line (Bangs, *supra cit.*).

Lynx fasciatus pallescens Merriam

Pallid Barred Wildcat

Original description—*Lynx fasciatus pallescens* Merriam, N. Amer. Fauna, **16**, October, 1899, p. 104.

Type locality—South base of Mount Adams, near Trout Lake, Skamania County, Washington.

Synonyms—*Felis rufa pallescens;* Pallid Lynx.

Range—Interior of northern California; vicinity of Mount Shasta south to Pitt River, in Shasta County (Merriam, *supra cit.*).

Lynx eremicus eremicus Mearns

Desert Wildcat

Original description—*Lynx rufus eremicus* Mearns, Proc. U. S. Nat. Mus., **20**, January 12, 1897, pp. 457, 458.

Type locality—New River, 6 miles northwest of Laguna Station, Colorado Desert, Imperial County, California.

Synonyms—Desert Lynx, part; *Felis rufa eremica.*

Range—Lower Sonoran zone on the Colorado and Mohave deserts, north at least to Needles, west to Victorville, San Bernardino County (Mus. Vert. Zool.).

Lynx eremicus californicus Mearns

California Wildcat

Original description—*Lynx rufus californicus* Mearns, Proc. U. S. Nat. Mus., **20**, January 12, 1897, p. 458.

Type locality—San Diego, California.

Synonyms—*Lynx californicus; Lynx eremicus,* part; Desert Lynx, part; *Felis rufa californica.*

Range—Sonoran, Transition, and lower Boreal zones throughout the greater portion of the state west and north of the desert proper, and south and east of the northern coast belt (Mus. Vert. Zool.). Northernmost record along the Sierra Nevada: Baird, Shasta County (Merriam, N. Amer. Fauna, **16**, 1899, p. 104).

Order PINNIPEDIA

Family OTARIIDAE

Zalophus californianus (Lesson)

California Sea Lion

Original description—"*Otaria californiana* Lesson, Dict. Class. Hist. Nat., **13**, 1828, p. 420."

Type locality—"California."

Synonyms—"*Otaria gillespii* M'Bain, Proc. Edinb. Roy. Soc., 1, 1858, p. 422 (type from California)"; *Zalophus gillespii; Arctocephalus gilliespii;* Lobo Marino.

Range—Seacoast and islands of southern California, breeding northwards from near the Mexican line to San Miguel Island; occurs at times farther north even to San Francisco Bay (J. Rowley, MS; Mus. Vert. Zool.).

Eumetopias stelleri (Lesson)

Steller Sea Lion

Original description—"*Otaria stelleri* Lesson, Dict. Class Hist. Nat., 13, 1828, p. 420."

Type locality—"North Pacific Ocean."

Synonyms—*Eumetopias jubata; Otaria jubata; Arctocephalus monteriensis* Gray, Proc. Zool. Soc. London, 1859, pp. 358, 360, pl. 72 (type from Monterey).

Range—Seacoast and islands of central and northern California, breeding northwards from Richardson Rock, near San Miguel Island, to near the Oregon line (J. Rowley, MS; Mus. Vert. Zool.).

Callotaria alascana (Jordan and Clark)

Pribilof Fur Seal

Original description—*Callorhinus alascanus* Jordan and Clark, Fur Seals and Fur Seal Islands of North Pacific Ocean, pt. 3, 1899, p. 2.

Type locality—Pribilof Islands, Bering Sea.

Synonyms—*Callorhinus ursinus*, part; Northern Fur Seal, part.

Range—In the annual migrations this fur seal occurs from January to March on the ocean off northern California, south as far as the vicinity of Point Conception (see Townsend, *in* Fur Seals and Fur Seal Islands of North Pacific Ocean, pt. 3, 1899, pp. 223–252, map).

Arctocephalus townsendi Merriam

Guadalupe Fur Seal

Original description—*Arctocephalus townsendi* Merriam, Proc. Biol. Soc. Wash., 11, July 1, 1897, p. 178.

Type locality—Guadalupe Island, off Lower California, Mexico.

Synonyms—*Callorhinus ursinus,* part; Northern Fur Seal, part.

Range—With little doubt fur seals formerly bred along the coast and among the islands of southern California (Scammon, Marine Mammals, 1874, p. 154; Stephens, Calif. Mammals, 1906, p. 206). The geographical probabilities strongly favor their identity with the southern form possibly still in existence off Lower California, rather than with the fur seal breeding on the Pribilof Islands, in Bering Sea.

Family PHOCIDAE

Phoca richardi geronimensis Allen

California Harbor Seal

Original description—*Phoca richardi geronimensis* Allen, Bull. Amer. Mus. Nat. Hist., **16**, December 12, 1902, pp. 493, 495, 496.

Type locality—San Geronimo Island, Lower California.

Synonyms—*Phoca pealei; Phoca richardi; Phoca vitulina;* San Geronimo Harbor Seal.

Range—Seacoast, islands, and bays, from the Mexican to the Oregon lines. It is probable that the harbor seals of the northern coast district will be found to be in characters nearest *Phoca richardi richardi.*

Macrorhinus angustirostris Gill

Northern Elephant Seal

Original description—"*Macrorhinus angustirostris* Gill, Proc. Chicago Acad. Sci., **1**, 1866, p. 33."

Type locality—"Saint Bartholomew's Bay, Lower California, Mexico."

Synonyms—*Mirounga angustirostris;* Sea Elephant.

Range—Formerly north along the seacoast as far as Point Reyes, Marin County (Scammon, Proc. Acad. Nat. Sci. Phila., 1869, p. 61); occurred in numbers at Santa Barbara Island as late as 1852 (Scammon, Marine Mammals, 1874, p. 118);

now restricted to the vicinity of Guadalupe Island, Lower California (Townsend, Zoologica, N. Y. Zool. Soc., **1**, 1912, p. 171).

Order RODENTIA

Family MURIDAE

Onychomys leucogaster brevicaudus Merriam

Short-tailed Grasshopper Mouse

Original description—Onychomys leucogaster brevicaudus Merriam, N. Amer. Fauna, **5**, July, 1891, p. 52.

Type locality—Blackfoot, Bingham County, Idaho.

Range—High Upper Sonoran zone along the extreme eastern edge of the state, in the Modoc region: Sugar Hill and Dry Creek, Warner Mountains, south to Benton, Mono County (Mus. Vert. Zool.).

Onychomys torridus torridus (Coues)

Arizona Grasshopper Mouse

Original description—Hesperomys (Onychomys) torridus Coues, Proc. Acad. Nat. Sci. Phila., December 15, 1874, p. 183.

Type locality—Camp Grant, Graham County, Arizona.

Synonyms—Onychomys pulcher Elliot, Field Col. Mus., zool. ser., **3**, December, 1903, pp. 243, 244 (type from Morongo Pass, east end of San Bernardino Mountains, California); *Onychomys torridus perpallidus; Onychomys torridus longicaudus.*

Range—Lower Sonoran zone on Colorado and Mohave deserts; west to Jacumba, San Diego County, Whitewater, Riverside County, and Antelope Valley, northern Los Angeles County, north to Independence, Inyo County (Mus. Vert. Zool.).

Onychomys torridus ramona Rhoads

Ramona Grasshopper Mouse

Original description—Onychomys ramona Rhoads, Amer. Nat., **27**, September, 1893, pp. 833, 834.

Type locality—San Bernardino Valley, San Bernardino County, California.

Synonym—San Bernardino Grasshopper Mouse.

Range—Lower Sonoran zone on the Pacific slope of the San Diegan district from the Mexican line northwest at least to San Fernando Valley, Los Angeles County (Mus. Vert. Zool.).

Onychomys torridus tularensis Merriam

Tulare Grasshopper Mouse

Original description—*Onychomys torridus tularensis* Merriam, Proc. Biol. Soc. Wash., **17**, June 9, 1904, p. 123.

Type locality—Bakersfield, Kern County, California.

Range—Lower Sonoran zone in the southern San Joaquin Valley; east to Kern Valley; west to Carrizo Plains, San Luis Obispo County; north to Huron, Fresno County (Merriam, *supra cit.;* Mus. Vert. Zool.).

Reithrodontomys megalotis longicauda (Baird)

Long-tailed Harvest Mouse

Original description—*Reithrodon longicauda* Baird, Pac. R. R. Rep., **8**, 1857, pp. 451, 452.

Type locality—Petaluma, Sonoma County, California.

Synonyms—*Reithrodontomys pallidus* Rhoads, Amer. Nat., **27**, September, 1893, p. 835 (type from Santa Ysabel [=Witch Creek], San Diego County, California); *Ochetodon longicauda, Reithrodontomys longicauda; Reithrodontomys longicauda pallidus;* Sonoma Harvest Mouse.

Range—Upper Sonoran and lower Transition zones of the greater portion of California west of the Sierran divides, from the Mexican boundary north through the San Diegan district, and through both the coast belt and San Joaquin and Sacramento valleys, to Trinidad, Humboldt County, and Scott River Valley, Siskiyou County (Mus. Vert. Zool.).

Reithrodontomys megalotis klamathensis Merriam

Klamath Harvest Mouse

Original description—*Reithrodontomys klamathensis* Merriam, N. Amer. Fauna, **16**, October, 1899, p. 93.

Type locality—Big Spring (=Mayten), Shasta Valley, Siskiyou County, California.

Range—Upper Sonoran zone of the Modoc region, west to Montague, Siskiyou County, and south to Vinton, Plumas County (Mus. Vert. Zool.).

Reithrodontomys megalotis deserti Allen

Desert Harvest Mouse

Original description—*Reithrodontomys megalotis deserti* Allen, Bull. Amer. Mus. Nat. Hist., **7**, May 21, 1895, pp. 127–129.

Type locality—Oasis Valley, Nye County, Nevada.

Synonym—*Reithrodontomys megalotis.*

Range—Lower and Upper Sonoran zones of the Colorado and Mohave desert areas, west to the eastern border of the San Diegan district, and north, east of the Sierra Nevada, to the head of Owens Valley (Mus. Vert. Zool.).

Reithrodontomys megalotis catalinae Elliot

Catalina Island Harvest Mouse

Original description—*Reithrodontomys catalinae* Elliot, Field Col. Mus., zool. ser., **3**, December, 1903, p. 246.

Type locality—Santa Catalina Island, Santa Barbara group, California.

Range—Santa Catalina Island, Santa Barbara group (Elliot, *supra cit.;* Mus. Vert. Zool.).

Reithrodontomys halicoetes Dixon

Tidal Marsh Harvest Mouse

Original description—*Reithrodontomys halicoetes* Dixon, Univ. Calif. Publ. Zool., **5**, August 14, 1909, pp. 271–273.

Type locality—Salt marsh 3 miles south of Petaluma, Sonoma County, California.

Synonym—Salt Marsh Harvest Mouse, part.

Range—Tidal marshes on the north side of San Francisco and Suisun bays, from Petaluma east to Grizzly Island (Mus. Vert. Zool.).

Reithrodontomys raviventris Dixon

Red-bellied Harvest Mouse

Original description—*Reithrodontomys raviventris* Dixon, Proc. Biol. Soc. Wash., **21**, October 20, 1908, pp. 197, 198.

Type locality—Redwood City, San Mateo County, California.

Synonym—Salt Marsh Harvest Mouse, part.

Range—Salt marshes bordering the south arm of San Francisco Bay, from Redwood City around to Melrose Marsh, Alameda County (Dixon, *supra cit.;* Mus. Vert. Zool.).

Peromyscus maniculatus rubidus Osgood

Redwood White-footed Mouse

Original description—*Peromyscus oreas rubidus* Osgood, Proc. Biol. Soc. Wash., **14**, December 12, 1901, p. 193.

Type locality—Mendocino City, Mendocino County, California.

Synonyms—*Peromyscus gambeli,* part; *Peromyscus texensis gambeli.*

Range—Humid northwest coast belt, in Upper Sonoran, Transition, and Boreal zones, from the Oregon line (east to Siskiyou Mountains) south to Golden Gate; also locally in the redwood belt south of San Francisco Bay as far as Sur, Monterey County (Osgood, N. Amer. Fauna, **28**, 1909, p. 66; Mus. Vert. Zool.).

Peromyscus maniculatus gambeli (Baird)

Gambel White-footed Mouse

Original description—*Hesperomys gambelii* Baird, Pac. R. R. Rep., **8**, 1857, p. 464.

Type locality—Monterey, California (see Allen, Bull. Amer. Mus. Nat. Hist., **5**, 1893, p. 190).

Synonyms—*Peromyscus gambeli,* part; *Mus leucopus; Peromyscus sonoriensis gambeli; Peromyscus texanus gambeli; Sitomys americanus gambeli; Peromyscus texanus medius.*

Range—Throughout all zones and over the greater portion of the state, from the Oregon line east of the humid coast belt, to the Mexican line west of the Colorado desert (Osgood, N. Amer. Fauna, **28**, 1909, p. 67; Mus. Vert. Zool.); in other words, California *except* humid coast belt north of San Francisco Bay, and southeastern desert regions. The most abundant and at the same time wide-spread single mammal of the state.

Peromyscus maniculatus sonoriensis (Le Conte)

Sonora White-footed Mouse

Original description—*Hesperomys sonoriensis* Le Conte, Proc. Acad. Nat. Sci. Phila., 6, October, 1853, p. 413.

Type locality—Santa Cruz, Sonora, Mexico.

Synonyms—*Hesperomys leucopus deserticolus* Mearns, Bull. Amer. Mus. Nat. Hist., 2, February, 1890, pp. 285–287 (type from Mohave River, 12 miles below Hesperia, San Bernardino County, California); *Sitomys insolatus* Rhoads, Proc. Acad. Nat. Sci. Phila., October, 1894, p. 256 (type from Oro Grande, San Bernardino County, California); Desert Deer Mouse; *Peromyscus texensis thurberi.*

Range—Colorado and Mohave deserts and adjacent mountain ranges, west to Mount Pinos, Ventura County, and north through the Inyo region to Alpine County (Osgood, N. Amer. Fauna, 28, 1909, pp. 92, 93; Mus. Vert. Zool.).

Peromyscus maniculatus clementis Mearns

San Clemente White-footed Mouse

Original description—*Peromyscus texanus clementis* Mearns, Proc. U. S. Nat. Mus., 18, March 25, 1896, pp. 446, 447.

Type locality—San Clemente Island, California.

Range—Outer islands of Santa Barbara group, including San Clemente, Santa Barbara, San Nicolas, Santa Rosa, and San Miguel islands (Osgood, N. Amer. Fauna, 28, 1909, p. 96).

Peromyscus maniculatus catalinae Elliot

Catalina Island White-footed Mouse

Original description—*Peromyscus catalinae* Elliot, Field Col. Mus., zool. ser., 3, April, 1903, p. 160.

Type locality—Santa Catalina Island, California.

Range—Santa Catalina and Santa Cruz islands, Santa Barbara group (Osgood, N. Amer. Fauna, 28, 1909, p. 97; Mus. Vert. Zool.).

Peromyscus boylei boylei (Baird)

Boyle White-footed Mouse

Original description—*Hesperomys boylii* Baird, Proc. Acad. Nat. Sci. Phila., 7, April, 1855, pp. 335–336.

Type locality—Middle Fork American River, Eldorado County, California, near Auburn (*fide* Osgood, N. Amer. Fauna, **28**, 1909, p. 142).

Synonym—*Sitomys robustus* Allen, Bull. Amer. Mus. Nat. Hist., **5**, December 16, 1893, p. 335 (type from Lakeport, Lake County, California).

Range—Upper Sonoran and Transition zones along Sierra Nevada, from vicinity of Yosemite north to Mount Shasta, thence west to Trinity Mountains and south along inner coast ranges nearly to San Francisco Bay (Osgood, N. Amer. Fauna, **28**, 1909, p. 142; Mus. Vert. Zool.).

Peromyscus boylei rowleyi (Allen)

Rowley White-footed Mouse

Original description—*Sitomys rowleyi* Allen, Bull. Amer. Mus. Nat. Hist., **5**, April 28, 1893, p. 76.

Type locality—Noland Ranch, San Juan River, Utah (*fide* Osgood, N. Amer. Fauna, **28**, 1909, p. 145).

Synonyms—*Sitomys major* Rhoads, Amer. Nat., **27**, September, 1893, pp. 831, 832 (type from Squirrel Inn, San Bernardino Mountains, San Bernardino County, California); *Peromyscus parasiticus* Elliot, Field Col. Mus., zool. ser., **3**, December, 1903, p. 244 (type from Lone Pine, Inyo County, California); *Hesperomys aztecus*.

Range—Upper Sonoran and Transition zones along mountains of southern California, north through coast ranges to Monterey County and in southern Sierra Nevada through Tulare County, thence east across Owens Valley and on Providence Mountains (Osgood, N. Amer. Fauna, **28**, 1909, pp. 146, 147; Mus. Vert. Zool.).

Peromyscus truei truei (Shufeldt)

True White-footed Mouse

Original description—*Hesperomys truei* Shufeldt, Proc. U. S. Nat. Mus., **8**, 1885, pp. 407, 408.

Type locality—Fort Wingate, McKinley County, New Mexico.

Synonyms—*Peromyscus lasius* Elliot, Field Col. Mus., zool. ser., **3**, March, 1904, p. 265 (type from Hannopee Canyon, Panamint Mountains, Inyo County, California); *Peromyscus montipinoris* Elliot, *ibid.*, p. 264 (type from Lockwood Valley, Mount Pinos, Ventura County, California).

Range—Upper Sonoran and Transition zones along eastern border of the state, chiefly east of the Sierra Nevada in the Inyo region; thence west through the extreme southern Sierra Nevada to the vicinity of Mount Pinos, Ventura County; north to Susanville, Lassen County; south to Providence Mountains, San Bernardino County (Osgood, N. Amer. Fauna, **28**, 1909, p. 169; Mus. Vert. Zool.).

Peromyscus truei gilberti (Allen)

Gilbert White-footed Mouse

Original description—*Sitomys gilberti* Allen, Bull. Amer. Mus. Nat. Hist., **5**, August, 1893, p. 188.

Type locality—Bear Valley, San Benito County, California.

Synonyms—*Peromyscus dyselius* Elliot, Field Col. Mus., zool. ser., **1**, March, 1898, pp. 207, 208 (type from Portola, San Mateo County, California); *Peromyscus boylei,* part.

Range—Upper Sonoran zone along central and northern Sierra Nevada, and in coast ranges of middle California and of northern California east of the humid coast belt; south to Santa Barbara County; north to the Oregon line (Osgood, N. Amer. Fauna, **28**, 1909, p. 171; Mus. Vert. Zool.).

Peromyscus truei martirensis (Allen)

San Pedro Martir White-footed Mouse

Original description—*Sitomys martirensis* Allen, Bull. Amer. Mus. Nat. Hist., **5**, August 18, 1893, p. 187.

Type locality—San Pedro Martir Mountains, altitude 7000 feet, Lower California, Mexico.

Synonym—San Pedro Martir Big-eared Mouse.

Range—Upper Sonoran zone along mountains of extreme southern California, north through the San Jacinto and San Bernardino ranges (Osgood, N. Amer. Fauna, **28**, 1909, p. 172; Mus. Vert. Zool.).

Peromyscus crinitus crinitus (Merriam)

Idaho Canyon Mouse

Original description—*Hesperomys crinitus* Merriam, N. Amer. Fauna, **5**, July, 1891, pp. 53, 54.

Type locality—Shoshone Falls, Snake River, Idaho.

Range—Upper Sonoran zone on extreme northeastern border of the state: eastern Lassen and Modoc counties (Osgood, N. Amer. Fauna, **28**, 1909, p. 231; Mus. Vert. Zool.).

Peromyscus crinitus stephensi Mearns

Stephens Canyon Mouse

Original description—*Peromyscus stephensi* Mearns, Proc. U. S. Nat. Mus., **19**, July 30, 1897, p. 721.

Type locality—Lowest water on wagon road in canyon at eastern base of the Coast Range, near Mexican boundary, San Diego County, California.

Synonym—*Peromyscus petraius* Elliot, Field Col. Mus., zool. ser., **3**, December, 1903, p. 244 (type from Lone Pine, Inyo County, California).

Range—Lower Sonoran zone on parts of Colorado and Mohave deserts, north through Inyo region to White Mountains and head of Owens Valley; west to Onyx, Kern County, and to east slopes of San Bernardino and San Jacinto mountains; southeast to Pilot Knob near Colorado River (Osgood, N. Amer. Fauna, **28**, 1909, pp. 233, 234; Mus. Vert. Zool.).

Peromyscus californicus californicus (Gambel)

Parasitic White-footed Mouse

Original description—*Mus californicus* Gambel, Proc. Acad. Nat. Sci. Phila., **4**, August, 1848, p. 78.

Type locality—Monterey, California.

Range—Upper Sonoran and Transition zones of coast region south from San Francisco Bay to Ventura County; thence east sparingly to western foothills of Sierra Nevada in Kern and Tulare counties (Osgood, N. Amer. Fauna, **28**, 1909, p. 237; Mus. Vert. Zool.).

Peromyscus californicus insignis Rhoads

Southern Parasitic Mouse

Original description—*Peromyscus insignis* Rhoads, Proc. Acad. Nat. Sci. Phila., March, 1895, p. 33.

Type locality—Dulzura, San Diego County, California.

Synonym—*Hesperomys californicus.*

Range—Upper Sonoran zone in southern California from San Gabriel Mountains in Los Angeles County south to the Mexican line (Osgood, N. Amer. Fauna, **28**, 1909, p. 238; Mus. Vert. Zool.).

Peromyscus eremicus eremicus (Baird)

Desert White-footed Mouse

Original description—*Hesperomys eremicus* Baird, Pac. R. R. Rep., **8**, 1857, pp. 479, 480.

Type locality—Fort Yuma, Imperial County, California.

Range—Lower Sonoran zone on Colorado desert and eastern parts of Mohave desert, west to east base of San Jacinto Mountains, and north to the Death Valley region (Osgood, N. Amer. Fauna, **28**, 1909, p. 242; Mus. Vert. Zool.).

Peromyscus eremicus fraterculus (Miller)

Dulzura White-footed Mouse

Original description—*Vesperimus fraterculus* Miller, Amer. Nat., **26**, March, 1892, pp. 261–263.

Type locality—Dulzura, San Diego County, California.

Synonyms—*Sitomys herroni* Rhoads, Amer. Nat., **27**, September, 1893, pp. 832, 833 (type from San Bernardino Valley [= Reche Canyon], San Bernardino County, California); *Sitomys herroni nigellus* Rhoads, Proc. Acad. Nat. Sci. Phila., October, 1894, p. 257 (type from west Cajon Pass, San Bernardino County, California).

Range—San Diegan district west of the desert divide, from Nordhoff, Ventura County, southeast to the Mexican line, chiefly in Lower Sonoran zone (Osgood, N. Amer. Fauna, **28**, 1909, p. 244; Mus. Vert. Zool.).

Sigmodon hispidus eremicus Mearns

Western Desert Cotton Rat

Original description—Sigmodon hispidus eremicus Mearns, Proc. U. S. Nat. Mus., **20**, March 5, 1897, pp. 504, 505.

Type locality—Cienaga Well, 30 miles south of Mexican boundary, on left bank of Colorado River, Sonora, Mexico.

Range—Valley of the lower Colorado River, from near Palo Verde to near Pilot Knob (Mus. Vert. Zool.).

Neotoma albigula venusta True

Colorado Valley Wood Rat

Original description—Neotoma venusta True, Proc. U. S. Nat. Mus., **17**, June 27, 1894, p. 354.

Type locality—Carrizo Creek, western Imperial County, California.

Synonyms—Neotoma cumulator Mearns, Proc. U. S. Nat. Mus., **20**, March 5, 1897, p. 503 (type from Fort Yuma, Imperial County, California); *Neotoma desertorum grandis* Elliot, Field Col. Mus., zool. ser., **3**, December, 1903, p. 247 (type from Cameron Lake, near Tehachapi, Kern County, California).

Range—Lower Sonoran zone in bed of the Colorado desert, from the Mexican line northwest at least to Mecca, Riverside County, west to extreme eastern San Diego County, and north along the Colorado River, at least to near Riverside Mountain; also sporadically (?) to Cameron Lake, near Tehachapi, Kern County (Goldman, N. Amer. Fauna, **31**, 1910, p. 34; Mus. Vert. Zool.).

Neotoma intermedia intermedia Rhoads

Intermediate Wood Rat

Original description—Neotoma intermedia Rhoads, Amer. Nat., **28**, January, 1894, pp. 69, 70.

Type locality—Dulzura, San Diego County, California.

Synonyms—Neotoma californica Price, Proc. Calif. Acad. Sci., 2nd ser., **4**, May 9, 1894, pp. 154–156 (type from Bear Valley, San Benito County, California); Rhoads Wood Rat; Dulzura White-footed Wood Rat.

Range—Upper and Lower Sonoran zones west of the desert divides, from the Mexican line in the San Diegan district north through the coast region into Monterey and San Benito counties; also in western foothills of extreme southern Sierra Nevada north as far as Porterville, Tulare County (Goldman, N. Amer. Fauna, **31**, 1910, p. 44; Mus. Vert. Zool.).

Neotoma intermedia gilva Rhoads

Banning Wood Rat

Original description—*Neotoma intermedia gilva* Rhoads, Amer. Nat., **28**, January, 1894, p. 70.

Type locality—Banning, Riverside County, California.

Synonym—*Neotoma desertorum sola* Merriam, Proc. Biol. Soc. Wash., **9**, July 2, 1894, p. 126 (type from San Emigdio, Kern County, California); Yellow Wood Rat.

Range—Arid Upper and Lower Sonoran zones along the eastern edge of the main range of *N. i. intermedia,* from Stanley, Fresno County, southeast to the Mexican line, and east through the Tehachapi region to the valley of the South Fork of the Kern River; the range of *gilva* thus lies irregularly between that of *intermedia* and that of *N. i. desertorum* (Mus. Vert. Zool.; Goldman, N. Amer. Fauna, **31**, 1910, pp. 45, 46).

Neotoma intermedia desertorum Merriam

Desert Wood Rat

Original description—*Neotoma desertorum* Merriam, Proc. Biol. Soc. Wash., **9**, July 2, 1894, pp. 125, 126.

Type locality—Furnace Creek, Death Valley, Inyo County, California.

Synonym—*Neotoma bella* Bangs, Proc. New Eng. Zool. Club, **1**, July 31, 1899, pp. 66, 67 (type from Palm Springs, Riverside County, California).

Range—Lower and Upper Sonoran zones on the southeastern deserts, from the Mexican line north through the Inyo region to the head of Owens Valley in Mono County, and in extreme eastern Lassen County; west southerly to the east base of the San Jacinto Mountains, in Riverside County, and to Antelope Valley, in northern Los Angeles County (Goldman, N. Amer. Fauna, **31**, 1910, p. 78; Mus. Vert. Zool.).

Neotoma fuscipes fuscipes Baird

Dusky-footed Wood Rat

Original description—Neotoma fuscipes (Cooper, MS) Baird, Pac. R. R. Rep., **8**, 1857, pp. 495, 496.

Type locality—Petaluma, Sonoma County, California.

Synonyms—Neotoma splendens True, Proc. U. S. Nat. Mus., **17**, June 27, 1894, p. 353 (type from Marin County, California); *Neotoma fuscipes streatori,* part.

Range—Upper Sonoran and Transition zones north of San Francisco Bay, both coastwise and interiorly west of the Sacramento Valley, to the Oregon line; eastwards at the north through Siskiyou and Shasta counties as far as Haydenhill, Lassen County (Goldman, N. Amer. Fauna, **31**, 1910, pp. 87–89; Mus. Vert. Zool.).

Neotoma fuscipes streatori Merriam

Streator Wood Rat

Original description—Neotoma fuscipes streatori Merriam, Proc. Biol. Soc. Wash., **9**, July 2, 1894, p. 124.

Type locality—Carbondale, Amador County, California.

Range—Upper Sonoran and lower Transition zones along west slope of Sierra Nevada, from Tehama County south to near Porterville, Tulare County (Goldman, N. Amer. Fauna, **31**, 1910, pp. 89, 90; Mus. Vert. Zool.).

Neotoma fuscipes annectens Elliot

Portola Wood Rat

Original description—Neotoma fuscipes annectens Elliot, Field Col. Mus., zool. ser., **1**, March, 1898, pp. 201, 202.

Type locality—Portola, San Mateo County, California.

Synonyms—Neotoma fuscipes affinis Elliot, *ibid.,* pp. 202, 203 (type from Alum Rock Park, Santa Clara County, California); *Neotoma fuscipes,* part.

Range—Upper Sonoran and Transition zones in the coast region south from San Francisco Bay to Monterey Bay; thence interiorly and south along the inner coast ranges as far as the Carrizo Plain, San Luis Obispo County; east at the north to include the Mount Diablo and Mount Hamilton ranges (Goldman, N. Amer. Fauna, **31**, 1910, pp. 90, 91; Mus. Vert. Zool.).

August 26, 1913.

Neotoma fuscipes simplex True

Fort Tejon Wood Rat

Original description—Neotoma macrotis simplex True, Proc. U. S. Nat. Mus., **17**, June 27, 1894, p. 354.

Type locality—Fort Tejon, Kern County, California.

Synonym—Neotoma fuscipes dispar Merriam, Proc. Biol. Soc. Wash., **9**, July 2, 1894, pp. 124, 125 (type from Lone Pine, Inyo County, California).

Range—Upper Sonoran zone on the east and southeast slopes of the southern Sierra Nevada, in Inyo and Kern counties, thence west through the Tehachapi region to the vicinity of Tejon Pass and adjacent foothills to the north and south (Goldman, N. Amer. Fauna, **31**, 1910, pp. 91, 92; Mus. Vert. Zool.).

Neotoma fuscipes mohavensis Elliot

Mohave Wood Rat

Original description—Neotoma fuscipes mohavensis Elliot, Field Col. Mus., zool. ser., **3**, December, 1903, p. 246.

Type locality—Oro Grande, on Mohave River, San Bernardino County, California.

Synonym—Neotoma fuscipes macrotis, part.

Range—Upper and Lower Sonoran zones on the San Jacinto and San Bernardino mountains, including the adjacent foothills on the desert side; also from the latter mountains down along the Mohave River into the Mohave desert at least as far as Oro Grande (Elliot, *supra cit.;* Mus. Vert. Zool.).

Neotoma fuscipes macrotis Thomas

Long-eared Wood Rat

Original description—Neotoma macrotis Thomas, Ann. and Mag. Nat. Hist., 6th ser., **12**, September, 1893, pp. 234, 235.

Type locality—San Diego, San Diego County, California.

Synonym—Neotoma fuscipes cnemophila Elliot, Field Col. Mus., zool. ser., **3**, March, 1904, pp. 267, 268 (type from Lockwood Valley, near Mt. Pinos, Ventura County, California).

Range—Upper Sonoran and lower Transition zones in the San Diegan district, northwest from the Mexican line, including also the narrow coast strip still farther northwards even to

Monterey (Goldman, N. Amer. Fauna, **31**, 1910, pp. 93, 94; Mus. Vert. Zool.).

Neotoma cinerea cinerea (Ord)

Gray Bushy-tailed Wood Rat

Original description—"*Mus cinereus* Ord, Guthrie's Geog., 2nd Amer. ed., **2**, 1815, p. 292."

Type locality—Great Falls, Cascade County, Montana (*fide* Goldman, N. Amer. Fauna, **31**, 1910, p. 95).

Synonyms—*Teonoma cinerea acraia* Elliot, Field Col. Mus., zool. ser., **3**, December, 1903, pp. 247, 248 (type really from Jordan Hot Springs, near Kern River, Sierra Nevada, Tulare County, California); *Teonoma cinerea.*

Range—High Transition and Boreal zones along the central and southern Sierra Nevada from Nevada County south as far as Jackass Meadow (near Kern County line), Tulare County; also on the White and Inyo mountains, Mono and Inyo counties (Goldman, N. Amer. Fauna, **31**, 1910, pp. 96, 98; Mus. Vert. Zool.).

Neotoma cinerea occidentalis Baird

Western Bushy-tailed Wood Rat

Original description—*Neotoma occidentalis* (Cooper, MS) Baird, Proc. Acad. Nat. Sci. Phila., **7**, 1855, p. 335.

Type locality—Shoalwater Bay, Pacific County, Washington.

Synonym—*Teonoma cinerea occidentalis.*

Range—Transition and Boreal zones of the northern end of the state; west nearly to the sea-coast north of Humboldt Bay; east to the Warner Mountains, Modoc County; south along the inner coast ranges as far as mountains near Elk Creek, Glenn County, and along the Sierra Nevada through Plumas County (Goldman, N. Amer. Fauna, **31**, 1910, p. 102; Mus. Vert. Zool.).

Phenacomys orophilus Merriam

Mountain Lemming Mouse

Original description—*Phenacomys orophilus* Merriam, N. Amer. Fauna, **5**, July, 1891, p. 66.

Type locality—Near head of Timber Creek, 10,500 feet altitude, Salmon River Mountains, Idaho.

Range—Known only from three specimens taken in the Boreal zone on Mount Shasta (Merriam, N. Amer. Fauna, **16**, 1899, p. 95), and one specimen taken at about 7500 feet altitude near Pyramid Peak, Eldorado County (Elliot, Field Col. Mus., zool. ser., **1**, 1898, p. 204).

Phenacomys albipes Merriam

White-footed Lemming Mouse

Original description—*Phenacomys albipes* Merriam, Proc. Biol. Soc. Wash., **14**, July 19, 1901, pp. 125, 126.

Type locality—Redwoods near Arcata, Humboldt County, California.

Range—The type specimen, taken in northwest humid Boreal, as above, represents the only locality of occurrence so far known.

Phenacomys longicaudus True

Long-tailed Lemming Mouse

Original description—*Phenacomys longicaudus* True, Proc. U. S. Nat. Mus., **13**, 1890, pp. 303, 304.

Type locality—Marshfield, Coos County, Oregon.

Range—One record for the state: one specimen found dead in a road near Mount Sanhedrin (Transition zone), Mendocino County (Stone, Proc. Acad. Nat. Sci. Phila., July, 1904, p. 578).

Evotomys mazama Merriam

Mazama Red-backed Mouse

Original description—*Evotomys mazama* Merriam, Proc. Biol. Soc. Wash., **11**, April 21, 1897, pp. 71, 72.

Type locality—Crater Lake, Klamath County, Oregon.

Range—Boreal zone on Mount Shasta (Merriam, N. Amer. Fauna, **16**, 1899, p. 95).

Evotomys obscurus Merriam

Dusky Red-backed Mouse

Original description—*Evotomys obscurus* Merriam, Proc. Biol. Soc. Wash., **11**, April 21, 1897, p. 72.

Type locality—Prospect, upper Rogue River Valley, Jackson County, Oregon.

Range—Boreal zone of northwestern California east of the humid coast belt and west of the main Sierran divide: Trinity Mountains (Jackson and Castle lakes, Siskiyou County) east to Carberry Ranch (near Montgomery Creek), Shasta County (Bailey, Proc. Biol. Soc. Wash., **11**, 1897, p. 133; Mus. Vert. Zool.).

Evotomys californicus Merriam

California Red-backed Mouse

Original description—*Evotomys californicus* Merriam, N. Amer. Fauna, **4**, October, 1890, p. 26.

Type locality—Eureka, Humboldt County, California.

Range—Boreal zone in the humid northwest coast belt, chiefly in the redwood forests, south as far as Willits, Mendocino County, interiorly to Fair Oaks, Humboldt County (Bailey, Proc. Biol. Soc. Wash., **11**, 1897, p. 134; Mus. Vert. Zool.).

Microtus montanus montanus (Peale)

Peale Meadow Mouse

Original description—*Arvicola montana* Peale, U. S. Exploring Exped., **8**, 1848, pp. 44, 45.

Type locality—Headwaters of Sacramento River, near Mount Shasta, California (*fide* Bailey, N. Amer. Fauna, **17**, 1900, p. 27).

Synonyms—*Arvicola longirostris* Baird, Pac. R. R. Rep., **8**, 1857, pp. 530, 531 (type from upper Pitt River, California); Peale Vole.

Range—Upper Sonoran and Transition zones in the Modoc region, west to Sisson, Siskiyou County, and south along the Sierra Nevada at least to the Yosemite Valley (Bailey, *supra cit.*, p. 28; Mus. Vert. Zool.).

Microtus montanus dutcheri Bailey

Mount Whitney Meadow Mouse

Original description—*Microtus dutcheri* Bailey, Proc. Biol. Soc. Wash., **12**, April 30, 1898, p. 85.

Type locality—Big Cottonwood Meadows, 10,000 feet altitude, near Mount Whitney, Inyo County, California.

Synonym—Dutcher Vole.

Range—Boreal zone of the extreme southern Sierra Nevada, in vicinity of Mount Whitney; south to Jackass Meadow, Tulare County, north to head of San Joaquin River, Fresno County (Bailey, N. Amer. Fauna, **17**, 1900, p. 33; Mus. Vert. Zool.).

Microtus californicus californicus (Peale)

California Meadow Mouse

Original description—*Arvicola californica* Peale, U. S. Exploring Exped., **8**, 1848, p. 46, "pl. 11, fig. 2."

Type locality—San Francisco Bay, California.

Synonyms—*Arvicola trowbridgii* Baird, Pac. R. R. Rep., **8**, 1857, p. 529 (type from Monterey, California); *Arvicola montana,* part; California Vole; *Microtus edax,* part.

Range—Both Sonoran and Transition zones throughout the state west of the Sierra Nevada and desert divides, including the San Diegan district, from the Mexican line north to the Oregon line, and east at the north to Shasta Valley, centrally to Onyx, Kern County; *except* bed of San Joaquin-Sacramento Valley, and narrow coast strip in vicinity of Cape Mendocino (Bailey, N. Amer. Fauna, **17**, 1900, p. 35; Mus. Vert. Zool.).

Microtus californicus vallicola Bailey

Owens Valley Meadow Mouse

Original description—*Microtus californicus vallicola* Bailey, Proc. Biol. Soc. Wash., **12**, April 30, 1898, p. 89.

Type locality—Lone Pine, Inyo County, California.

Synonym—Valley Vole.

Range—Suitable parts of Upper and Lower Sonoran zones on the Mohave desert and in the Inyo region; south to Victorville, San Bernardino County, east to Panamint Mountains, and north through Owens Valley to Alvord (Bailey, N. Amer. Fauna, **17**, 1900, p. 36; Mus. Vert. Zool.).

Microtus californicus constrictus Bailey

Mendocino Meadow Mouse

Original description—*Microtus californicus constrictus* Bailey, N. Amer. Fauna, **17**, June, 1900, pp. 36, 37.

Type locality—Cape Mendocino, near Capetown, Humboldt County, California.

Synonym—Coast Vole, part.

Range—Transition zone in northwest humid coast belt, at least from Capetown to Eureka and interiorly to Cuddeback and Fair Oaks; all these localities in Humboldt County (Mus. Vert. Zool.).

Microtus edax (Le Conte)

Tule Meadow Mouse

Original description—*Arvicola edax* Le Conte, Proc. Acad. Nat. Sci. Phila., **6**, October, 1853, p. 405.

Type locality—California, somewhere south of San Francisco (*fide* Baird, Pac. R. R. Rep., **8**, 1857, p. 532).

Synonym—Tule Vole.

Range—Lower and Upper Sonoran zones in suitable parts of San Joaquin and Sacramento valleys, north to near Marysville Buttes, south to Tulare Lake, and west to Cordelia Slough, Solano County (Bailey, N. Amer. Fauna, **17**, 1900, p. 38; Mus. Vert. Zool.).

Microtus scirpensis Bailey

Amargosa Meadow Mouse

Original description—*Microtus scirpensis* Bailey, N. Amer. Fauna, **17**, June, 1900, p. 38.

Type locality—Amargosa River (near Nevada line), Inyo County, California.

Synonym—Desert Vole.

Range—Known only from a small tule marsh, Lower Sonoran zone, at the type locality, as above.

Microtus mordax mordax (Merriam)

Cantankerous Meadow Mouse

Original description—*Arvicola mordax* Merriam, N. Amer. Fauna, **5**, July, 1891, pp. 61, 62.

Type locality—Sawtooth (or Alturas) Lake, east foot of Sawtooth Mountains, Idaho.

Synonym—Cantankerous Vole.

Range—Transition and Boreal zones along the whole Sierra Nevada, south to Taylor Meadow, Tulare County (close to Kern County line); also on White Mountains, Inyo County;

west in northern California to Trinity and Salmon Mountains, east to Warner Mountains (Bailey, N. Amer. Fauna, 17, 1900, p. 50; Mus. Vert. Zool.).

Microtus mordax bernardinus Merriam

San Bernardino Meadow Mouse

Original description—*Microtus mordax bernardinus* Merriam, Proc. Biol. Soc. Wash., **21**, June 9, 1908, p. 145.

Type locality—Dry Lake, 9000 feet altitude, San Bernardino Mountains, California.

Range—High Transition and Boreal zones in the San Bernardino Mountains, San Bernardino County, California (Merriam, *supra cit.;* Mus. Vert. Zool.).

Microtus mordax angusticeps Bailey

Northwest Coast Meadow Mouse

Original description—*Microtus angusticeps* Bailey, Proc. Biol. Soc. Wash., **12**, April 30, 1898, p. 86.

Type locality—Crescent City, Del Norte County, California.

Synonym—Coast Vole, part.

Range—Transition and Boreal zones in extreme northwest humid coast belt; south to Eureka, Humboldt County (Bailey, N. Amer. Fauna, **17**, 1900, p. 52; Mus. Vert. Zool.).

Microtus oregoni oregoni (Bachman)

Oregon Meadow Mouse

Original description—*Arvicola oregoni* Bachman, Journ. Acad. Nat. Sci. Phila., **8**, 1839, pp. 60, 61.

Type locality—Astoria, Oregon.

Synonym—Oregon Vole.

Range—Transition and Boreal zones in extreme northwest humid coast belt, south to Dyerville, Humboldt County, and interiorly to Hoopa Valley (Bailey, N. Amer. Fauna, **17**, 1900, p. 71; Mus. Vert. Zool.).

Microtus oregoni adocetus Merriam

Yolla Bolly Meadow Mouse

Original description—*Microtus oregoni adocetus* Merriam, Proc. Biol. Soc. Wash., **21**, June 9, 1908, pp. 145, 146.

Type locality—South Yolla Bolly Mountain, Trinity County, California.

Range—As far as known, only in Boreal zone at the type locality, as above.

Lagurus curtatus (Cope)

Short-tailed Meadow Mouse

Original description—*Arvicola curtata* Cope, Proc. Acad. Nat. Sci. Phila., 1868, p. 2.

Type locality—Pigeon Spring, Mount Magruder, Nevada, near California boundary line.

Synonym—Short-tailed Vole; *Microtus curtatus.*

Range—Transition zone on the arid mountains in the Inyo region; Inyo and White mountains (Bailey, N. Amer. Fauna, **17**, 1900, pp. 67, 68).

Fiber zibethicus mergens Hollister

Nevada Muskrat

Original description—*Fiber zibethicus mergens* Hollister, Proc. Biol. Soc. Wash., **23**, February 2, 1910, p. 1.

Type locality—Fallon, Churchill County, Nevada.

Synonym—*Ondatra zibethica mergens.*

Range—Extreme eastern part of Modoc region: Eagle Lake and Susanville, Lassen County (Hollister, N. Amer. Fauna, **32**, 1911, pp. 27, 28).

Fiber zibethicus pallidus Mearns

Pallid Muskrat

Original description—*Fiber zibethicus pallidus* Mearns, Bull. Amer. Mus. Nat. Hist., **2**, February, 1890, p. 280.

Type locality—Old Fort Verde (Camp Verde), Yavapai County, Arizona.

Synonym—*Ondatra zibethica pallida.*

Range—Colorado River and tributary sloughs, from the Nevada line to the Mexican boundary; also irrigation canals in the Imperial Valley, Imperial County (Mus. Vert. Zool.; Hollister, N. Amer. Fauna, **32**, 1911, pp. 28, 29).

Epimys norvegicus (Erxleben)

Norway Rat

Original description—"*Mus norvegicus* Erxleben, Syst. Regni Anim., 1, 1777, p. 381."

Type locality—"Norway."

Synonyms—Brown Rat, part; Wharf Rat; *Mus decumanus.*

Range—Almost everywhere in the settled portions of the state, chiefly in towns and cities. In the San Joaquin and Sacramento valleys, rats have invaded marshy tracts and occur along sloughs far from human habitations. This is the most abundant species of non-native mammal outside of the house mouse.

Epimys rattus (Linnaeus)

Black Rat

Original description—*Mus rattus* Linnaeus, Syst. Nat., 1, 1758, p. 61.

Type locality—Sweden.

Range—Occurs in relatively small numbers in San Francisco and neighboring cities of the San Francisco Bay region. Not native.

Epimys alexandrinus (Geoffroy)

Roof Rat

Original description—"*Mus alexandrinus* Geoffroy, Description de l'Egypte, Mammifères, 1818, p. 733."

Type locality—"Alexandria, Egypt."

Synonym—Brown Rat, part.

Range—Occurs commonly in the larger cities of west-central California. Not native.

Mus musculus musculus Linnaeus

House Mouse

Original description—*Mus musculus* Linnaeus, Syst. Nat., 1, 1758, p. 62.

Type locality—Sweden.

Range—Practically throughout the state around human settlements; in the thickest settled valleys occurs widely over uncultivated land, often a mile or more from the nearest building. An immigrant from Europe. In west-central California a variation has appeared, of possible phylogenetic importance (Dice, Science, n. s., **35**, 1912, pp. 834–836).

Family GEOMYIDAE

Thomomys bottae bottae (Eydoux and Gervais)

California Pocket Gopher

Original description—"*Oryctomys (Saccophorus) bottae* Eydoux and Gervais, Mag. de Zool., **6**, 1836, p. 23, pl. 21."

Type locality—Coast of California: Monterey (see Allen, Bull. Amer. Mus. Nat. Hist., **5**, 1893, p. 57).

Synonyms—*Thomomys talpoides bulbivorus; Thomomys bulbivorus.*

Range—Upper Sonoran and Transition zones in the San Francisco Bay region, south along the coast to Ventura County, and north at least through Marin County; east into Contra Costa County (Mus. Vert. Zool.).

Thomomys bottae pallescens Rhoads

San Diego Pocket Gopher

Original description—*Thomomys bottae pallescens* Rhoads, Proc. Acad. Nat. Sci. Phila., March 19, 1895, p. 36.

Type locality—Grapelands, San Bernardino County, California.

Synonym—Southern Pocket Gopher.

Range—Lower and Upper Sonoran zones in the San Diegan district, from the Mexican line northwest into Ventura County (Mus. Vert. Zool.).

Thomomys bottae laticeps Baird

Humboldt Bay Pocket Gopher

Original description—*Thomomys laticeps* Baird, Proc. Acad. Nat. Sci. Phila., **7**, April, 1855, p. 335.

Type locality—Humboldt Bay, Humboldt County, California.

Synonyms—*Thomomys bottae,* part; Broad-headed Pocket Gopher.

Range—Transition zone in the humid coast belt in the vicinity of Humboldt Bay (Mus. Vert. Zool.).

Thomomys angularis angularis Merriam

Los Baños Pocket Gopher

Original description—*Thomomys angularis* Merriam, Proc. Biol. Soc. Wash., **11**, July 15, 1897, p. 214.

Type locality—Los Baños, Merced County, California.

Synonym—San Joaquin Pocket Gopher.

Range—Lower and Upper Sonoran zones on west side of San Joaquin Valley, at least from Los Baños, Merced County, north to Tracy, San Joaquin County (Mus. Vert. Zool.).

Thomomys angularis pascalis Merriam

Fresno Pocket Gopher

Original description—*Thomomys angularis pascalis* Merriam, Proc. Biol. Soc. Wash., **14**, July 19, 1901, p. 111.

Type locality—Fresno, San Joaquin Valley, California.

Range—Lower Sonoran zone in the southern San Joaquin Valley, from the vicinity of Bakersfield north at least to Fresno, and west as far as the Carrizo Plain, San Luis Obispo County (Mus. Vert. Zool.).

Thomomys mewa Merriam

Digger Pine Pocket Gopher

Original description—*Thomomys mewa* Merriam, Proc. Biol. Soc. Wash., **21**, June 9, 1908, p. 146.

Type locality—Raymond, Madera County, California.

Range—Digger Pine belt, in the Upper Sonoran zone, along the west base of the Sierra Nevada at least from Placer County south to Kern County (Merriam, *supra cit.;* Mus. Vert. Zool.).

Thomomys leucodon navus Merriam

Red Bluff Pocket Gopher

Original description—*Thomomys leucodon navus* Merriam, Proc. Biol. Soc. Wash., **14**, July 19, 1901, p. 112.

Type locality—Red Bluff, Tehama County, California.

Range—Upper and Lower Sonoran zones in the Sacramento Valley.

Thomomys fuscus fisheri Merriam

Fisher Pocket Gopher

Original description—*Thomomys fuscus fisheri* Merriam, Proc. Biol. Soc. Wash., **14**, July 19, 1901, pp. 111, 112.

Type locality—Beckwith, Sierra Valley, Plumas County, California.

Range—Upper Sonoran and Transition zones in the Modoc region of northeastern California.

Thomomys operarius Merriam

Owens Lake Pocket Gopher

Original description—*Thomomys operarius* Merriam, Proc. Biol. Soc. Wash., **11**, July 15, 1897, pp. 215, 216.

Type locality—Keeler, Owens Lake, Inyo County, California.

Synonym—Owens Valley Pocket Gopher.

Range—Lower Sonoran zone; restricted to the immediate vicinity of Owens Lake (Elliot, Field. Col. Mus., zool. ser., **3**, 1904, p. 300; Mus. Vert. Zool.).

Thomomys scapterus Elliot

Panamint Pocket Gopher

Original description—*Thomomys scapterus* Elliot, Field. Col. Mus., zool. ser., **3**, December, 1903, pp. 248, 249.

Type locality—Hannopee Canyon, Panamint Mountains, Inyo County, California.

Range—Upper Sonoran (?) zone in the Panamint Mountains, Inyo County (Elliot, Field Col. Mus., zool. ser., **3**, 1904, p. 301).

Thomomys aureus perpes Merriam

Lone Pine Pocket Gopher

Original description—*Thomomys aureus perpes* Merriam, Proc. Biol. Soc. Wash., **14**, July 19, 1901, p. 111.

Type locality—Lone Pine, Owens Valley, Inyo County, California.

Synonyms—*Thomomys perpallidus perpes; Thomomys perpallidus,* part; Golden Pocket Gopher.

Range—Lower and Upper Sonoran zones on the Mohave Desert, north through the Inyo region, south to north base of San Bernardino Mountains, west to Antelope Valley, in northern Los Angeles County (Mus. Vert. Zool.).

Thomomys albatus Grinnell

Imperial Valley Pocket Gopher

Original description—*Thomomys albatus* Grinnell, Univ. Calif. Publ. Zool., **10**, June 7, 1912, pp. 172, 173.

Type locality—California side of lower Colorado River at the old Hanlon Ranch, near Pilot Knob, Imperial County.

Synonyms—*Thomomys fulvus*, part; *Thomomys perpallidus*, part.

Range—Lower Sonoran zone in the delta area on the Colorado Desert in Imperial County, from near Pilot Knob west to Carrizo Creek and north to Salton Sea (Grinnell, *supra cit.*, pp. 173, 174).

Thomomys perpallidus Merriam

Palm Springs Pocket Gopher

Original description—*Thomomys talpoides perpallidus* Merriam, Science, **8**, December 24, 1886, p. 588.

Type locality—Palm Springs, Riverside County, California (see Stephens, Calif. Mammals, 1906, p. 138).

Synonyms—*Thomomys fulvus perpallidus;* Pallid Pocket Gopher; Pale-colored Gopher.

Range—Lower Sonoran zone at extreme northwest border of Colorado Desert in vicinity of Palm Springs, Riverside County (Grinnell, Univ. Calif. Publ. Zool., **10**, 1912, p. 173).

Thomomys cabezonae Merriam

Cabezon Pocket Gopher

Original description—*Thomomys cabezonae* Merriam, Proc. Biol. Soc. Wash., **14**, July 19, 1901, p. 110.

Type locality—Cabezon, San Gorgonio Pass, Riverside County, California.

Range—Lower and Upper Sonoran zones in San Gorgonio Pass and adjacent foothills, Riverside County (Mus. Vert. Zool.).

Thomomys nigricans Rhoads

Tawny Pocket Gopher

Original description—*Thomomys fulvus nigricans* Rhoads, Proc. Acad. Nat. Sci. Phila., March 19, 1895, p. 36.

Type locality—Witch Creek, San Diego County, California.

Synonym—*Thomomys fulvus,* part; Dark-colored Gopher.

Range—Upper Sonoran and lower Transition zones in the San Diegan district, from near the Mexican line north to the west side of the San Jacinto Mountains (Mus. Vert. Zool.).

Thomomys altivallis Rhoads

San Bernardino Mountain Pocket Gopher

Original description—*Thomomys altivallis* Rhoads, Proc. Acad. Nat. Sci. Phila., March 19, 1895, pp. 34, 35.

Type locality—San Bernardino Mountains, 5000 feet altitude, San Bernardino County, California.

Range—Transition and Boreal zones on the San Bernardino and San Jacinto mountains, San Bernardino and Riverside counties (Mus. Vert. Zool.).

Thomomys alpinus alpinus Merriam

Mount Whitney Pocket Gopher

Original description—*Thomomys alpinus* Merriam, Proc. Biol. Soc. Wash., **11**, July 15, 1897, p. 216.

Type locality—Cottonwood Meadows, 10,000 feet altitude, 8 miles southeast of Mount Whitney, in Inyo County, California.

Synonym—Alpine Pocket Gopher.

Range—Transition and Boreal zones in the southern Sierra Nevada, from Taylor Meadow (near Kern County line), Tulare County, north at least to head of Kern River, Tulare County; ranging also down on the adjacent east slopes, in Inyo County (Mus. Vert. Zool.).

Thomomys alpinus awahnee Merriam

Yosemite Pocket Gopher

Original description—*Thomomys alpinus awahnee* Merriam, Proc. Biol. Soc. Wash., **21**, June 9, 1908, pp. 146, 147.

Type locality—Yosemite Valley, Mariposa County, California.

Range—As far as known, Transition zone in Yosemite Valley (Merriam, *supra cit.;* Mus. Vert. Zool.).

Thomomys monticola Allen

Sierra Nevada Pocket Gopher

Original description—*Thomomys monticola* Allen, Bull. Amer. Mus. Nat. Hist., **5**, April 28, 1893, p. 48.

Type locality—Mount Tallac, 7500 feet altitude, Eldorado County, California.

Synonyms—Mountain Pocket Gopher; Pine Woods Gopher; *Thomomys monticola pinetorum* Merriam, N. Amer. Fauna, **16**, October, 1899, p. 97 (type from Sisson, Siskiyou County, California).

Range—Transition and Boreal zones on the northern Sierra Nevada, from the Tahoe region north to Mount Shasta, thence west through the Trinity Mountains (Mus. Vert. Zool.).

Family HETEROMYIDAE

Perognathus panamintinus panamintinus Merriam

Panamint Pocket Mouse

Original description—*Perognathus longimembris panamintinus* Merriam, Proc. Acad. Nat. Sci. Phila., September 27, 1894, p. 265.

Type locality—Perognathus Flat, altitude 5200 feet, Panamint Mountains, Inyo County, California.

Range—Upper Sonoran zone on the Panamint Mountains, Inyo County (Osgood, N. Amer. Fauna, **18**, 1900, pp. 28, 29).

Perognathus panamintinus bangsi Mearns

Bangs Pocket Mouse

Original description—*Perognathus longimembris bangsi* Mearns, Bull. Amer. Mus. Nat. Hist., **10**, August 31, 1898, p. 300.

Type locality—Palm Springs, Colorado Desert, Riverside County, California.

Synonyms—*Perognathus panamintinus arenicola* Stephens, Proc. Biol. Soc. Wash., **13**, June 13, 1900, p. 153 (type from San Felipe Narrows, eastern San Diego County, California); *Perognathus pericalles* Elliot, Field Col. Mus., zool. ser., **3**, December, 1903, pp. 252, 253 (type from Keeler, Inyo County, California).

Range—Lower Sonoran and low Upper Sonoran zones in the Colorado and Mohave desert region, west to the eastern margin of the San Diegan district, and north through the Inyo region to the head of Owens Valley (Osgood, N. Amer. Fauna, **18**, 1900, pp. 29, 30; Mus. Vert. Zool.).

Perognathus panamintinus brevinasus Osgood

Short-nosed Pocket Mouse

Original description—*Perognathus panamintinus brevinasus* Osgood, N. Amer. Fauna, **18**, September, 1900, p. 30.

Type locality—San Bernardino, San Bernardino County, California.

Synonym—*Perognathus longimembris,* part.

Range—Lower Sonoran, and low Upper Sonoran zones in the San Diegan district, from the Mexican line northwest at least to San Fernando Valley, Los Angeles County (Osgood, *supra cit.,* p. 31; Mus. Vert. Zool.).

Perognathus elibatus Elliot

Mount Pinos Pocket Mouse

Original description—*Perognathus elibatus* Elliot, Field Col. Mus., zool. ser., **3**, December, 1903, p. 252.

Type locality—Lockwood Valley, altitude 5500 feet, near Mount Pinos, Ventura County, California.

Range—Upper Sonoran zone, in Lockwood Valley, near Mount Pinos, Ventura County (Elliot, *supra cit.;* also *ibid.,* March, 1904, p. 307).

Perognathus pacificus Mearns

Pacific Pocket Mouse

Original description—*Perognathus pacificus* Mearns, Bull. Amer. Mus. Nat. Hist., **10**, August 31, 1898, p. 299.

Type locality—Mexican boundary monument no. 258, shore of Pacific Ocean, near Tia Juana, San Diego County, California.

Range—Apparently Upper Sonoran zone close to the ocean shore; known only from the type locality, and from a similar place in the extreme northwestern corner of San Diego County (Stephens, Calif. Mammals, 1906, p. 165).

Perognathus bombycinus Osgood

Yuma Pocket Mouse

Original description—*Perognathus bombycinus* Osgood, Proc. Biol. Soc. Wash., **20**, February 23, 1907, pp. 19, 20.

Type locality—Yuma, Arizona.

Range—Lower Sonoran zone in extreme southeastern corner of Imperial County: vicinity of Pilot Knob (Mus. Vert. Zool.).

Perognathus longimembris longimembris (Coues)

San Joaquin Pocket Mouse

Original description—*Otognosis longimembris* Coues, Proc. Acad. Nat. Sci. Phila., August, 1875, p. 305.

Type locality—Fort Tejon, Kern County, California.

Synonyms—*Perognathus inornatus* Merriam, N. Amer. Fauna, 1, October, 1889, p. 15 (type from Fresno, California); *Cricetodipus parvus; Perognathus parvus.*

Range—Sonoran zones in the San Joaquin and Sacramento valleys, from Fort Tejon, Kern County, north to Sites, Colusa County (Mus. Vert. Zool.; Taylor, Univ. Calif. Publ. Zool., **10**, 1912, pp. 156, 162).

Perognathus longimembris neglectus Taylor

McKittrick Pocket Mouse

Original description—*Perognathus longimembris neglectus* Taylor, Univ. Calif. Publ. Zool., **10**, May 21, 1912, p. 155.

Type locality—McKittrick, Kern County, California.

Range—Lower Sonoran zone on west side of southern San Joaquin Valley: vicinity of McKittrick, Kern County, and Simmler, Carrizo Plain, San Luis Obispo County (Mus. Vert. Zool.).

Perognathus parvus mollipilosus Coues

Coues Pocket Mouse

Original description—Perognathus mollipilosus Coues, Proc. Acad. Nat. Sci. Phila., August 1875, p. 296.

Type locality—Fort Crook (about 2 miles northeast of Burgettville), Shasta County, California.

Synonym—Perognathus monticola.

Range—Upper Sonoran, Transition, and lower Boreal zones in the Modoc region, from Mount Shasta and vicinity east to the Warner Mountains, and south to Vinton, Plumas County (Osgood, N. Amer. Fauna, **18**, 1900, p. 37; Mus. Vert. Zool.).

Perognathus parvus olivaceus Merriam

Great Basin Pocket Mouse

Original description—Perognathus olivaceus Merriam, N. Amer. Fauna, **1**, October, 1889, pp. 15, 16.

Type locality—Kelton, Boxelder County, Utah.

Range—Upper Sonoran and lower Transition zones east of the Sierra Nevada, from Long Valley, Mono County, south to foothills due west of Independence, Inyo County; also at Lower Alkali Lake, extreme eastern border of Modoc County (Osgood, N. Amer. Fauna, **18**, 1900, p. 38; Mus. Vert. Zool.).

Perognathus parvus magruderensis Osgood

Mount Magruder Pocket Mouse

Original description—Perognathus parvus magruderensis Osgood, N. Amer. Fauna, **18**, September, 1900, p. 38.

Type locality—Mount Magruder, 8000 feet altitude, Esmeralda County, Nevada.

Range—Upper Sonoran and Transition zones on the desert ranges of the Inyo region, from the White Mountains south to the Panamint and Coso ranges (Osgood, *supra cit.;* Mus. Vert. Zool.).

Perognathus xanthonotus Grinnell

Walker Pass Pocket Mouse

Original description—Perognathus xanthonotus Grinnell, Proc. Biol. Soc. Wash., **25**, July 31, 1912, pp. 127, 128.

Type locality—Freeman Canyon, 4900 feet altitude, east slope of Walker Pass, Kern County, California.

Range—Tree-yucca belt (high Lower Sonoran and low Upper Sonoran zones) in vicinity of Walker Pass, Kern County (Mus. Vert. Zool.).

Perognathus alticola Rhoads

White-eared Pocket Mouse

Original description—*Perognathus alticolus* Rhoads, Proc. Acad. Nat. Sci. Phila., December, 1893, p. 412.

Type locality—Squirrel Inn, near Little Bear Valley, San Bernardino Mountains, San Bernardino County, California.

Range—Known only from the lower Transition zone in the near vicinity of the type locality (Stephens, Calif. Mammals, 1906, p. 166).

Perognathus baileyi baileyi Merriam

Bailey Pocket Mouse

Original description—*Perognathus baileyi* Merriam, Proc. Acad. Nat. Sci. Phila., September 27, 1894, pp. 262, 263.

Type locality—Magdalena, Sonora, Mexico.

Range—Agave belt of Upper Sonoran zone at Mountain Spring, near Mexican boundary, San Diego County (Mus. Vert. Zool.).

Perognathus formosus Merriam

Long-tailed Pocket Mouse

Original description—*Perognathus formosus* Merriam, N. Amer. Fauna, **1**, October, 1889, pp. 17, 18.

Type locality—St. George, Washington County, Utah.

Synonym—*Perognathus mesembrinus* Elliot, Field. Col. Mus., zool. ser., **3**, December, 1903, p. 251 (type from Palm Springs, Colorado Desert, Riverside County, California).

Range—Upper and Lower Sonoran zones in portions of the Mohave desert region; northwest through the Inyo region at least to Lone Pine and the Inyo Mountains; southwest to the north base of the San Bernardino Mountains and to La Puerta, eastern San Diego County; southeast to the Colorado River at Pilot Knob, Imperial County (Mus. Vert. Zool.; Osgood, N. Amer. Fauna, **18**, 1900, p. 41).

Perognathus penicillatus penicillatus Woodhouse

Colorado Desert Pocket Mouse

Original description—*Perognathus penicillatus* Woodhouse, Proc. Acad. Nat. Sci. Phila., **6**, December, 1852, pp. 200, 201.

Type locality—Somewhere near San Francisco Mountain, Arizona, possibly Little Colorado Desert (see Osgood, N. Amer. Fauna, **18**, 1900, p. 45).

Synonym—*Perognathus penicillatus angustirostris* Osgood, *supra cit.*, p. 47 (type from Carrizo Creek, western edge of Colorado Desert, Imperial County, California).

Range—Lower Sonoran zone on Colorado Desert, west to La Puerta, eastern San Diego County, northwest to Cabezon, Riverside County, and north along the Colorado River bottom to Needles (Mus. Vert. Zool.).

Perognathus penicillatus stephensi Merriam

Stephens Pocket Mouse

Original description—*Perognathus stephensi* Merriam, Proc. Acad. Nat. Sci. Phila., September 27, 1894, p. 267.

Type locality—Mesquite Valley, northwest arm of Death Valley, Inyo County, California.

Range—Lower Sonoran zone on the Mohave Desert: Death Valley, Inyo County, south to Victorville, San Bernardino County (Elliot, Field Col. Mus., zool. ser., **3**, 1904, p. 309; Mus. Vert. Zool.).

Perognathus fallax fallax Merriam

San Diego Short-eared Pocket Mouse

Original description—*Perognathus fallax* Merriam, N. Amer. Fauna, **1**, October, 1889, pp. 19, 20.

Type locality—Reche Canyon, 3 miles southeast of Colton, San Bernardino County, California (*fide* Osgood, N. Amer. Fauna, **18**, 1900, p. 55).

Range—Lower Sonoran zone in southern part of the San Diegan district, from the Mexican line northwest at least to the vicinity of Riverside (Mus. Vert. Zool.).

Perognathus fallax pallidus Mearns

Pallid Short-eared Pocket Mouse

Original description—*Perognathus fallax pallidus* Mearns, Proc. Biol. Soc. Wash., **14**, August 9, 1901, pp. 135, 136.

Type locality—Mountain Spring, east slope of coast range near Mexican boundary, in San Diego County, California.

Range—Lower Sonoran zone along western rim of Colorado and Mohave deserts, from the Mexican line northwest at least to Victorville; in other words, east slope of main mountain divides in San Diego, Riverside and San Bernardino counties (Mus. Vert. Zool.).

Perognathus californicus californicus Merriam

California Pocket Mouse

Original description—*Perognathus californicus* Merriam, N. Amer. Fauna, **1**, October, 1889, p. 26.

Type locality—Berkeley, Alameda County, California.

Synonyms—*Perognathus armatus* Merriam, *supra cit.*, p. 27 (type from Mount Diablo, Contra Costa County, California); *Perognathus californicus dispar* Osgood, N. Amer. Fauna, **18**, 1900, p. 58 (type from Carpinteria, Santa Barbara County, California), part.

Range—Upper Sonoran zone in west central California, south of Golden Gate and Strait of Carquinez; south through the northern part of the San Diegan district at least to and including Los Angeles County; also western foothills of southern Sierra Nevada north at least to Raymond, Madera County (Mus. Vert. Zool.; Osgood, *supra cit.*, p. 59).

Perognathus californicus ochrus Osgood

Kern County Pocket Mouse

Original description—*Perognathus californicus ochrus* Osgood, Proc. Biol. Soc. Wash., **17**, June 9, 1904, p. 128.

Type locality—Santiago Springs, 16 miles southwest of McKittrick, Kern County, California.

Synonym—*Perognathus californicus dispar*, part.

Range—Lower Sonoran zone in the southern San Joaquin Valley, west to Cuyama Valley, and north to Alcalde, Fresno County (Osgood, *supra cit.*).

Perognathus californicus femoralis Allen

Dulzura Pocket Mouse

Original description—Perognathus femoralis Allen, Bull. Amer. Mus. Nat. Hist., 3, June 30, 1891, p. 281.

Type locality—Dulzura, San Diego County, California.

Synonym—Perognathus californicus dispar, part; Great California Pocket Mouse.

Range—High Upper Sonoran zone in the San Diegan district, from the Mexican line north to the southwest slopes of the San Bernardino Mountains (Mus. Vert. Zool.).

Perognathus spinatus spinatus Merriam

Spiny Pocket Mouse

Original description—Perognathus spinatus Merriam, N. Amer. Fauna, **1**, October, 1889, p. 21.

Type locality—California side of the Colorado River, 25 miles below The Needles, San Bernardino County.

Range—Lower Sonoran zone on hilly parts of the Colorado desert, from the Mexican line northwest to Palm Springs, Riverside County, and along the Colorado River to near Needles (Osgood, N. Amer. Fauna, **18**, 1900, p. 60; Mus. Vert. Zool.).

Perodipus agilis agilis (Gambel)

Gambel Kangaroo Rat

Original description—Dipodomys agilis Gambel, Proc. Acad. Nat. Sci. Phila., **4**, August, 1848, pp. 77, 78.

Type locality—Los Angeles, Los Angeles County, California.

Synonyms—Gambel Pocket Rat; *?Dipodomys heermanni* Le Conte, Proc. Acad. Nat. Sci. Phila., January, 1853, p. 224 (type taken by Heermann in the "Sierra Nevada"—possibly Fort Tejon); *?Dipodomys wagneri* Le Conte, *l. c.* (no locality; possibly not from California).

Range—Upper and Lower Sonoran zones in the San Diegan district, from the Mexican line northwest at least into Ventura County (Mus. Vert. Zool.).

Perodipus agilis tularensis Merriam

Tulare Kangaroo Rat

Original description—*Perodipus agilis tularensis* Merriam, Proc. Biol. Soc. Wash., **17**, July 14, 1904, p. 143.

Type locality—Alila (=Earlimart), Tulare County, California.

Range—Lower Sonoran zone in the southern San Joaquin Valley, at least from near Bakersfield northwest to Los Baños, Merced County; west to Carrizo Plain and Cuyama Valley, San Luis Obispo County (Mus. Vert. Zool.).

Perodipus perplexus Merriam

Walker Basin Kangaroo Rat

Original description—*Perodipus perplexus* Merriam, Proc. Biol. Soc. Wash., **20**, July 22, 1907, p. 79.

Type locality—Walker Basin, Kern County, California.

Range—Upper Sonoran zone of the foothills and small interior valleys of the southern Sierra and Tejon Mountains, from Walker Basin to Tejon Pass (Merriam, *supra cit.*).

Perodipus morroensis Merriam

Morro Kangaroo Rat

Original description—*Perodipus morroensis* Merriam, Proc. Biol. Soc. Wash., **20**, July 22, 1907, pp. 78, 79.

Type locality—Morro, San Luis Obispo County, California.

Range—Known only from the original description, as above.

Perodipus goldmani Merriam

Goldman Kangaroo Rat

Original description—*Perodipus goldmani* Merriam, Proc. Biol. Soc. Wash., **17**, July 14, 1904, p. 143.

Type locality—Salinas, mouth of Salinas Valley, Monterey County, California.

Range—Known only from the type locality, as above.

Perodipus venustus Merriam

Santa Cruz Kangaroo Rat

Original description—*Perodipus venustus* Merriam, Proc. Biol. Soc. Wash., 17, July 14, 1904, p. 142.

Type locality—Santa Cruz, Santa Cruz County, California.

Synonym—Santa Cruz Pocket Rat.

Range—Upper Sonoran zone south from San Francisco Bay through the Santa Cruz district at least to the Santa Lucia Mountains, Monterey County (Merriam, *supra cit.;* Mus. Vert. Zool.).

Perodipus streatori streatori Merriam

Streator Kangaroo Rat

Original description—*Perodipus streatori* Merriam, Proc. Biol. Soc. Wash., 9, July 21, 1894, pp. 113, 114.

Type locality—Carbondale, Amador County, California.

Synonym—Streator Pocket Rat.

Range—Upper Sonoran zone along lower west slope of central Sierra Nevada.

Perodipus streatori simulans Merriam

Dulzura Kangaroo Rat

Original description—*Perodipus streatori simulans* Merriam, Proc. Biol. Soc. Wash., 17, July 14, 1904, p. 144.

Type locality—Dulzura, San Diego County, California.

Range—Dulzura and Twin Oaks, in San Diego County, "and thence northward at least to Morro in San Luis Obispo County" (Merriam, *supra cit.*).

Perodipus ingens Merriam

Carrizo Plain Kangaroo Rat

Original description—*Perodipus ingens* Merriam, Proc. Biol. Soc. Wash., 17, July 14, 1904, pp. 141, 142.

Type locality—Painted Rock, 20 miles southeast of Simmler, Carrizo Plain, San Luis Obispo County, California.

Synonym—Big Pocket Rat.

Range—Lower Sonoran zone on west side of southern San Joaquin Valley: vicinity of McKittrick, Kern County; Carrizo Plain, San Luis Obispo County; and Cuyama Valley, in extreme northern Santa Barbara County (Mus. Vert. Zool.).

Perodipus panamintinus Merriam

Panamint Kangaroo Rat

Original description—*Perodipus panamintinus* Merriam, Proc. Biol. Soc. Wash., 9, June 21, 1894, p. 114.

Type locality—Head of Willow Creek, Panamint Mountains, Inyo County, California.

Synonym—Panamint Pocket Rat.

Range—Lower and Upper Sonoran zones throughout the Inyo region, and west along northern border of Mohave desert at least to Antelope Valley, northern Los Angeles County (Mus. Vert. Zool.).

Perodipus cabezonae Merriam

Cabezon Kangaroo Rat

Original description—*Perodipus cabezonae* Merriam, Proc. Biol. Soc. Wash., 17, July 14, 1904, pp. 144, 145.

Type locality—Cabezon, Colorado Desert, Riverside County, California.

Range—Known only from the type locality, as above.

Perodipus stephensi Merriam

Stephens Kangaroo Rat

Original description—*Perodipus stephensi* Merriam, Proc. Biol. Soc. Wash., 20, July 22, 1907, p. 78.

Type locality—San Jacinto Valley, Riverside County, California.

Range—Known only from the original description, as above.

Perodipus microps microps Merriam

Small-faced Kangaroo Rat

Original description—*Perodipus microps* Merriam, Proc. Biol. Soc. Wash., 17, July 14, 1904, p. 145.

Type locality—Lone Pine, Owens Valley, Inyo County, California.

Synonym—Inyo Pocket Rat.

Range—Lower and Upper Sonoran zones of the Mohave desert and Inyo regions; north to near Benton, Mono County; south to Victorville, San Bernardino County (Mus. Vert. Zool.).

Perodipus microps levipes Merriam

Light-footed Kangaroo Rat

Original description—*Perodipus microps levipes* Merriam, Proc. Biol. Soc. Wash., **17**, July 14, 1904, p. 145.

Type locality—Perognathus Flat, Emigrant Gap, Panamint Mountains, Inyo County, California.

Range—Known only from the original description, as above.

Dipodomys deserti deserti Stephens

Big Desert Kangaroo Rat

Original description—*Dipodomys deserti* Stephens, Amer. Nat., **21**, January, 1887, pp. 42–49, pl. 5.

Type locality—Mohave River, near Hesperia, San Bernardino County, California.

Synonym—Desert Pocket Rat.

Range—Lower Sonoran zone on the Colorado and Mohave deserts; west to Carrizo Creek, western Imperial County, and to Palm Springs, Riverside County; north at least to Ballarat, Inyo County (Mus. Vert. Zool.; Elliot, Field Col. Mus., zool. ser., **3**, 1904, p. 304).

Dipodomys deserti helleri Elliot

Heller Kangaroo Rat

Original description—*Dipodomys deserti helleri* Elliot, Field Col. Mus., zool. ser., **3**, December, 1903, p. 249.

Type locality—Keeler, Owens Lake, Inyo County, California.

Range—Lower Sonoran zone in near vicinity of Owens Lake, Inyo County (Mus. Vert. Zool.).

Dipodomys merriami simiolus Rhoads

Allied Kangaroo Rat

Original description—*Dipodomys simiolus* Rhoads, Proc. Acad. Nat. Sci. Phila. (1893), January, 1894, pp. 410, 411.

Type locality—Agua Caliente (=Palm Springs), Riverside County, California.

Synonyms—*Dipodomys similis* Rhoads, Proc. Acad. Nat. Sci. Phila. (1893), January, 1894, p. 411 (type from Whitewater, Riverside County, California); Mimic Pocket Rat; ?*Dipodomys phillipsi*, part.

Range—Lower and Upper Sonoran zones on the Colorado and Mohave deserts and the included and adjacent mountain ranges, from the Mexican line north to the Inyo region, west to the east slopes of the San Jacinto and San Bernardino mountains (Mus. Vert. Zool.).

Dipodomys merriami parvus Rhoads

San Bernardino Kangaroo Rat

Original description—*Dipodomys parvus* Rhoads, Amer. Nat., 28, January, 1894, pp. 70, 71.

Type locality—San Bernardino, San Bernardino County, California.

Synonym—San Bernardino Pocket Rat.

Range—Lower Sonoran zone in the San Diegan district, from near the Mexican line north at least to the Cajon Wash, near San Bernardino (Mus. Vert. Zool.).

Dipodomys merriami nitratus Merriam

Keeler Kangaroo Rat

Original description—*Dipodomys merriami nitratus* Merriam, Proc. Biol. Soc. Wash., 9, June 21, 1894, p. 112.

Type locality—Keeler, Owens Lake, Inyo County, California.

Synonym—Keeler Pocket Rat.

Range—Lower Sonoran zone in the near vicinity of Owens Lake, Inyo County (Elliot, Field Col. Mus., zool. ser., 3, 1904, p. 302; Mus. Vert. Zool.).

Dipodomys merriami mortivallis Elliot

Death Valley Kangaroo Rat

Original description—*Dipodomys merriami mortivallis* Elliot, Field Col. Mus., zool. ser., 3, December, 1903, pp. 250, 251.

Type locality—Furnace Creek, Death Valley, Inyo County, California.

Range—Lower Sonoran zone in Death Valley and adjacent parts of the desert floor, Inyo County (Elliot, Field Col. Mus., zool. ser., **3**, 1904, p. 303).

Dipodomys merriami nevadensis Merriam

Nevada Kangaroo Rat

Original description—*Dipodomys merriami nevadensis* Merriam, Proc. Biol. Soc. Wash., **9**, June 21, 1894, pp. 111, 112.

Type locality—Pyramid Lake, Washoe County, Nevada.

Range—Lower and Upper Sonoran zones along the east-central border of the state, in Mono and Inyo counties, south into Owens Valley (Mus. Vert. Zool.).

Dipodomys merriami kernensis Merriam

Kern Valley Kangaroo Rat

Original description—*Dipodomys merriami kernensis* Merriam, Proc. Biol. Soc. Wash., **20**, July 22, 1907, pp. 77, 78.

Type locality—Onyx, Kern County, California.

Range—Lower Sonoran zone on west slope of Sierran divide in Kern Valley, Kern County: Onyx, Weldon and Kelso Creek (Mus. Vert. Zool.).

Dipodomys merriami nitratoides Merriam

Tipton Kangaroo Rat

Original description—*Dipodomys merriami nitratoides* Merriam, Proc. Biol. Soc. Wash., **9**, June 21, 1894, p. 112.

Type locality—Tipton, Tulare County, California.

Synonym—Tulare Pocket Rat.

Range—Lower Sonoran zone in bed of southern San Joaquin Valley, chiefly if not altogether on the west-side alkali plains, from near Tulare Lake to Bakersfield (Mus. Vert. Zool.).

Dipodomys merriami exilis Merriam

Fresno Kangaroo Rat

Original description—*Dipodomys merriami exilis* Merriam, Proc. Biol. Soc. Wash., **9**, June 21, 1894, p. 113.

Type locality—Fresno, San Joaquin Valley, California.

Synonym—Least Pocket Rat.

Range—Known only from the original description, as above.

Dipodomys californicus Merriam

California Kangaroo Rat

Original description—*Dipodomys californicus* Merriam, N. Amer. Fauna, **4**, October, 1890, p. 49.

Type locality—Ukiah, Mendocino County, California.

Synonyms—*Dipodomys californicus pallidulus* Bangs, Proc. New Eng. Zool. Club, **1**, July 31, 1899, pp. 65, 66 (type from Sites, Colusa County, California); California Pocket Rat; *Dipodomys phillipii*, part.

Range—Upper Sonoran and lower Transition zones in northwestern California; south to Nicasio, Marin County, north to Scott River Valley, Siskiyou County, east to Chico, Butte County, and Vacaville, Solano County (Mus. Vert. Zool.).

Microdipodops californicus Merriam

Sierra Valley Kangaroo Mouse

Original description—*Microdipodops californicus* Merriam, Proc. Biol. Soc. Wash., **14**, July 19, 1901, p. 128.

Type locality—Sierra Valley, near Vinton, Plumas County, California.

Synonym—California Dwarf Pocket Rat.

Range—Upper Sonoran zone; known only from the type locality, as above.

Family ZAPODIDAE

Zapus major Preble

Warner Mountain Jumping Mouse

Original description—*Zapus major* Preble, N. Amer. Fauna, **15**, August 8, 1899, pp. 24, 25.

Type locality—Warner Mountains, Lake County, Oregon.

Range—Transition and Boreal zones in the mountains of eastern Modoc County, from Goose Lake and Sugar Hill, south to Warren Peak, Warner Mountains (Taylor, Univ. Calif. Publ. Zool., **7**, 1911, p. 282; Mus. Vert. Zool.).

Zapus trinotatus trinotatus Rhoads

Northwestern Jumping Mouse

Original description—*Zapus trinotatus* Rhoads, Proc. Acad. Nat. Sci. Phila. (1894), January 15, 1895, pp. 421, 422.

Type locality—Lulu Island, mouth of Fraser River, British Columbia, Canada.

Range—Boreal zone in extreme northern humid coast belt: Crescent City, Del Norte County, and Carson's Camp on Mad River, Humboldt County (Preble, N. Amer. Fauna, **15**, 1899, pp. 26, 27).

Zapus trinotatus alleni Elliot

Allen Jumping Mouse

Original description—*Zapus alleni* Elliot, Field Col. Mus., zool. ser., **1**, March, 1898, pp. 212, 213.

Type locality—Pyramid Peak, in Eldorado County, near Lake Tahoe, California.

Range—Boreal zone on the Sierra Nevada, from Kern Peak, Tulare County, north to Mount Shasta, thence west through the Trinity Mountains, in Trinity and Siskiyou counties (Mus. Vert. Zool.).

Zapus orarius Preble

Point Reyes Jumping Mouse

Original description—*Zapus orarius* Preble, N. Amer. Fauna, **15**, August 8, 1899, pp. 29, 30.

Type locality—Point Reyes, Marin County, California.

Synonym—Coast Jumping Mouse; *Zapus pacificus,* part.

Range—High Transition and Boreal zones in humid coast belt, from Point Reyes north to Humboldt Bay (Preble, *supra cit.;* Mus. Vert. Zool.).

Zapus pacificus Merriam

Pacific Jumping Mouse

Original description—*Zapus pacificus* Merriam, Proc. Biol. Soc. Wash., **11**, April 26, 1897, p. 104.

Type locality—Prospect, Rogue River Valley, Jackson County, Oregon.

Range—One record: Little Shasta Creek, Siskiyou County, one specimen, "not typical" (Preble, N. Amer. Fauna, **15**, 1899, pp. 30, 31; Merriam, N. Amer. Fauna, **16**, 1899, p. 99).

Family ERETHIZONTIDAE

Erethizon epixanthum epixanthum Brandt

Yellow-haired Porcupine

Original description—"*Erethizon epixanthus* Brandt, Mem. Acad. St. Petersburg, 1835, p. 390, pls. 1, 9."

Type locality—"California (or Unalaska)."

Synonym—*Erethizon dorsatus epixanthus.*

Range—High Transition and Boreal zones along the Sierra Nevada, from Mount Shasta (Merriam, N. Amer. Fauna, **16**, 1899, p. 98) to the vicinity of Mount Whitney (Mus. Vert. Zool.).

Family APLODONTIIDAE

Aplodontia californica (Peters)

Sierra Mountain Beaver

Original description—*Haplodon leporinus* var. *californicus* Peters, Monats. K. Akad. Wiss. Berlin, 1864, pp. 177–179.

Type locality—The Sierra of California.

Synonym—*Aplodontia major* Merriam, Ann. New York Acad. Sci., **3**, May, 1886, p. 316 (type from Sierra Nevada, in Placer County, California); *Haplodontia rufa californica;* California Sewellel; California Mountain Beaver.

Range—High Transition and Boreal zones on the central Sierra Nevada, Mount Shasta, and the Trinity and Siskiyou mountains (Mus. Vert. Zool.; Stephens, Calif. Mammals, 1906, p. 94).

Aplodontia phaea Merriam

Point Reyes Mountain Beaver

Original description—*Aplodontia phaea* Merriam, Proc. Biol. Soc. Wash., **13**, January 31, 1899, p. 20.

Type locality—Point Reyes, Marin County, California.

Synonyms—*Haplodontia phaea;* Dark Seweilel; *?Haplodon rufus.*

Range—Transition and Boreal zones in the humid northwest coast belt, south as far as Lagunitas, Marin County (Mus. Vert. Zool.).

Family SCIURIDAE

Marmota flaviventer (Audubon and Bachman)

Yellow-bellied Marmot

Original description—*Arctomys flaviventer* Audubon and Bachman, Proc. Acad. Nat. Sci. Phila., October, 1841, pp. 99, 100.

Type locality—Mountains between Texas and California.

Synonym—Yellow-bellied Woodchuck.

Range—High Transition and Boreal zones on the Sierra Nevada from Cannell Meadow (near Kern County line), Tulare County, north at least to Nevada County (Mus. Vert. Zool.).

Citellus beecheyi douglasi (Richardson)

Douglas Ground Squirrel

Original description—*Arctomys douglasii* Richardson, Fauna Boreali-Americana, **1**, 1829, p. 172.

Type locality—Banks of the Columbia River, Oregon.

Synonyms—*Citellus douglasi; Citellus variegatus douglasi; Spermophilus grammurus douglasi; Citellus grammurus douglasi.*

Range—Upper Sonoran and Transition zones throughout northern California, north from San Francisco Bay to the Oregon line; east across the upper end of the Sacramento Valley and through the Shasta and Modoc regions to the Warner Mountains. The range of *douglasi* is restricted to the west side of the Sacramento River north as far as Butte Creek, when it spreads northeast across the Valley to take in Chico and the mountain mass beyond, including Lassen Peak (Mus. Vert. Zool.; Merriam, Dept. Agric., Bur. Biol. Surv. Circ., **76**, 1910, pp. 2, 3).

Citellus beecheyi beecheyi (Richardson)

California Ground Squirrel

Original description—*Arctomys beecheyi* Richardson, Fauna Boreali-Americana, **1**, 1829, p. 170, pl. 12.

Type locality—Neighborhood of San Francisco and Monterey, in California.

August 26, 1913.

Synonyms—Digger Squirrel; Beechey Ground Squirrel; *Spermophilus beecheyi; Spermophilus grammurus beecheyi; Citellus variegatus beecheyi; Citellus grammurus beecheyi.*

Range—Upper Sonoran, Lower Sonoran and Transition zones of west-central California, south from San Francisco Bay throughout the coast region as far as Ventura County; also Sacramento Valley east of Sacramento River and south of Butte and Lassen counties; also northern portion of the San Joaquin Valley and west slope of middle Sierra Nevada (Mus. Vert. Zool.; Merriam, Dept. Agric., Bur. Biol. Surv. Circ., **76**, 1910, pp. 2, 3).

Citellus beecheyi fisheri (Merriam)

Fisher Ground Squirrel

Original description—*Spermophilus beecheyi fisheri* Merriam, Proc. Biol. Soc. Wash., **8**, December 28, 1893, pp. 133, 134.

Type locality—Kern Valley, 25 miles above (= east of) Kernville, Kern County, California.

Synonyms—*Spermophilus grammurus fisheri; Citellus variegatus fisheri; Citellus grammurus fisheri.*

Range—Lower Sonoran, Upper Sonoran, and Transition zones in the southern San Joaquin Valley and surrounding mountains, north at least to Madera County; east over the southern Sierra Nevada and on the desert ranges of the Inyo region as far east as the Panamint Mountains; and south through the San Diegan district and adjacent edges of the Mohave and Colorado deserts to the Mexican line (Mus. Vert. Zool.; Merriam, Dept. Agric., Bur. Biol. Surv. Circ., **76**, 1910, pp. 2, 3).

Citellus beecheyi nesioticus Elliot

Catalina Island Ground Squirrel

Original description—*Citellus nesioticus* Elliot, Field Col. Mus., zool. ser., **3**, March, 1904, pp. 263, 264.

Type locality—Santa Catalina Island, Santa Barbara group. California.

Range—Santa Catalina Island (Elliot, *supra cit.*).

Citellus variegatus grammurus (Say)

Rock Squirrel

Original description—*Sciurus grammurus* Say, in Long's Exped. Rocky Mts., 2, 1823, p. 72.

Type locality—Purgatory River, near mouth of Chacuaco Creek, Las Animas County, Colorado (*fide* Cary, N. Amer. Fauna, 33, 1911, p. 87).

Range—Upper and Lower Sonoran zones in extreme eastern San Bernardino County: Province Mountains and canyons of the Colorado River (Merriam, Dept. Agric., Bur. Biol. Surv. Circ., 76, 1910, p. 2).

Citellus tereticaudus tereticaudus (Baird)

Round-tailed Ground Squirrel

Original description—*Spermophilus tereticaudus* Baird, Pac. R. R. Rep., 8, 1857, pp. 315, 316.

Type locality—Fort Yuma, Imperial County, California.

Synonym—Round-tailed Spermophile.

Range—Lower Sonoran zone on the Colorado desert, in Imperial County, west to La Puerta, eastern San Diego County; north along the valley of the Colorado River as far as Needles (Mus. Vert. Zool.).

Citellus tereticaudus chlorus Elliot

Palm Springs Ground Squirrel

Original description—*Citellus chlorus* Elliot, Field Col. Mus., zool. ser., 3, December, 1903, p. 242.

Type locality—Palm Springs, Riverside County, California.

Synonym—Pale Spermophile.

Range—Lower Sonoran zone on the extreme west end of the Colorado Desert: Mecca northwest to Whitewater, Riverside County (Mus. Vert. Zool.).

Citellus eremonomus Elliot

Death Valley Ground Squirrel

Original description—*Citellus eremonomus* Elliot, Field Col. Mus., zool. ser., 3, December, 1903, p. 243.

Type locality—Furnace Creek, Death Valley, Inyo County, California.

Synonym—Death Valley Spermophile.

Range—Death Valley, Inyo County (Elliot, *supra cit.*).

Citellus mohavensis (Merriam)

Mohave Ground Squirrel

Original description—*Spermophilus mohavensis* Merriam, N. Amer. Fauna, **2**, October, 1889, p. 15.

Type locality—Mohave River, above Victorville, San Bernardino County, California.

Synonyms—*Citellus tereticaudus mohavenis;* Mohave Desert Spermophile.

Range—Lower Sonoran zone on southwestern part of Mohave Desert (as above), northeast to Daggett (Elliot, Field Col. Mus., zool. ser., **3**, 1904, p. 291; Stephens, Calif. Mammals, 1906, p. 72).

Citellus mollis stephensi (Merriam)

Stephens Ground Squirrel

Original description—*Spermophilus mollis stephensi* Merriam, Proc. Biol. Soc. Wash., **12**, March 24, 1898, pp. 69, 70.

Type locality—Queen Station, near head of Owens Valley, in Esmeralda County, Nevada.

Synonym—Stephens Spermophile.

Range—Upper Sonoran zone in extreme east-central California: head of Owens Valley, Mono County (Merriam, *supra cit.;* Stephens, Calif. Mammals, 1906, p. 71).

Citellus oregonus (Merriam)

Oregon Ground Squirrel

Original description—*Spermophilus oregonus* Merriam, Proc. Biol. Soc. Wash., **12**, March 24, 1898, p. 69.

Type locality—Swan Lake Valley, Klamath Basin, Klamath County, Oregon.

Range—Upper Sonoran and Transition zones in eastern part of Modoc region: Alturas; Sugar Hill; Warner Mountains (Mus. Vert. Zool.).

Citellus beldingi (Merriam)

Belding Ground Squirrel

Original description—*Spermophilus beldingi* Merriam, Ann. New York Acad. Sci., **4**, December 28, 1888, pp. 317–320.

Type locality—Donner, Placer County, California.

Synonym—Belding Spermophile.

Range—Transition and Boreal zones on the central Sierra Nevada, at least from Nevada County to Eldorado County (Mus. Vert. Zool.).

Eutamias pictus (Allen)

Sage-brush Chipmunk

Original description—*Tamias minimus pictus* Allen, Bull. Amer. Mus. Nat. Hist., **3**, June, 1890, p. 115.

Type locality—Kelton, Boxelder County, Utah.

Synonym—*Tamias pictus; Eutamias minimus pictus.*

Range—Upper Sonoran zone along east base of Sierra Nevada, at least from Mono County south to latitude of Independence on both east and west sides of Owens Valley (Mus. Vert. Zool.).

Eutamias alpinus (Merriam)

Alpine Chipmunk

Original description—*Tamias alpinus* Merriam, Proc. Biol. Soc. Wash., **8**, December 28, 1893, pp. 137, 138.

Type locality—Big Cottonwood Meadows, 10,000 feet altitude, Sierra Nevada, Inyo County, California.

Range—Boreal zone on the southern Sierra Nevada, from Olancha Peak, Tulare County, northwards at least to Kearsarge Pass, Inyo County (Mus. Vert. Zool.).

Eutamias amoenus (Allen)

Klamath Chipmunk

Original description—*Tamias amoenus* Allen, Bull. Amer. Mus. Nat. Hist., **3**, June, 1890, p. 90.

Type locality—Fort Klamath, Klamath County, Oregon.

Synonyms—*Tamias quadrimaculatus,* part; *Tamias asiaticus quadrivittatus;* Sacramento Chipmunk, part.

Range—Transition and Boreal zones throughout northwestern California, east to the Warner Mountains, Modoc County;

west through the Trinity Mountains, Siskiyou and Trinity counties; and south along the Sierra Nevada to the vicinity of Kearsarge Pass, Inyo and Fresno counties (Merriam, Proc. Biol. Soc. Wash., **11**, 1897, pp. 190, 192; Mus. Vert. Zool.).

Eutamias panamintinus (Merriam)

Panamint Chipmunk

Original description—*Tamias panamintinus* Merriam, Proc. Biol. Soc. Wash., **8**, December 28, 1893, pp. 134, 135.

Type locality—Johnson Canyon, Panamint Mountains, Inyo County, California.

Range—Upper Sonoran and low Transition zones, on the desert ranges east of the southern Sierra Nevada; also on the east slope of the main Sierra Nevada in Inyo County, at least from Carroll Creek, northwards to Little Onion Valley (Merriam, *supra cit.*, p. 136; Mus. Vert. Zool.).

Eutamias speciosus speciosus (Allen)

San Bernardino Chipmunk

Original description—*Tamias speciosus* (Merriam, MS) Allen, Bull. Amer. Mus. Nat. Hist., **3**, June, 1890, p. 86.

Type locality—San Bernardino Mountains, California.

Range—High Transition and Boreal zones on the San Jacinto and San Bernardino mountains, and on the extreme southern Sierra Nevada from Taylor Meadow (near Kern County line), Tulare County, north at least to Kearsarge Pass, Inyo County (Merriam, Proc. Biol. Soc. Wash., **11**, 1897, pp. 191, 200; Mus. Vert. Zool.).

Eutamias speciosus frater (Allen)

Tahoe Chipmunk

Original description—*Tamias frater* Allen, Bull. Amer. Mus. Nat. Hist., **3**, June, 1890, p. 88.

Type locality—Donner, Placer County, California.

Synonyms—*Tamias quadrivittatus*, part; Sierra Nevada Chipmunk; *Eutamias frater*.

Range—Transition and Boreal zones on the Sierra Nevada in the vicinity of Summit, Placer County, and Lake Tahoe

(Merriam, Proc. Biol. Soc. Wash., **11**, 1897, pp. 192, 200), south to vicinity of Kearsarge Pass, in Inyo County (Mus. Vert. Zool.).

Eutamias speciosus inyoensis Merriam

Inyo Chipmunk

Original description—*Eutamias speciosus inyoensis* Merriam, Proc. Biol. Soc. Wash., **11**, July 1, 1897, pp. 202, 208.

Type locality—White Mountains, Inyo County, California.

Synonym—*Tamias speciosus inyoensis.*

Range—Transition and Boreal zones on the White and Inyo mountains, Inyo County (Merriam, *supra cit.;* Mus. Vert. Zool.).

Eutamias speciosus callipeplus (Merriam)

Mount Pinos Chipmunk

Original description—*Tamias callipeplus* Merriam, Proc. Biol. Soc. Wash., **8**, December 28, 1893, p. 136.

Type locality—Summit of Mount Pinos, Ventura County, California.

Range—High Transition and Boreal zones on Mount Pinos, Ventura County, and on the western slope of the southern Sierra Nevada, from the headwaters of the Tule River northward nearly to the Yosemite Valley (Merriam, Proc. Biol. Soc. Wash., **11**, 1897, pp. 191, 200; Mus. Vert. Zool.).

Eutamias quadrimaculatus (Gray)

Long-eared Chipmunk

Original description—*Tamias quadrimaculatus* Gray, Ann. and Mag. Nat. Hist., 3rd ser., **20**, 1867, pp. 435, 436.

Type locality—Michigan Bluff, Placer County, California.

Synonyms—*Tamias macrorhabdotes* Merriam, Proc. Biol. Soc. Wash., **3**, January 27, 1886, pp. 25–28 (type from Sierra Nevada Mountains, central California, more exactly Blue Canyon, Placer County); *Eutamias macrorhabdotes.*

Range—Upper Transition zone along west slope of Sierra Nevada, from Yosemite National Park northward at least to Quincy, Plumas County (Merriam, Proc. Biol. Soc. Wash., **11**, 1897, p. 206; Mus. Vert. Zool.).

Eutamias senex (Allen)

Allen Chipmunk

Original description—*Tamias senex* Allen, Bull. Amer. Mus. Nat. Hist., **3**, June, 1890, p. 83.

Type locality—Summit of Donner Pass, Placer County, California.

Synonym—Gray Chipmunk.

Range—Boreal zone along the northern Sierra Nevada, south as far as Mariposa County; east to Big Valley Mountains, Lassen County, and Warner Mountains, Modoc County; west to Siskiyou and Trinity mountains (Merriam, Proc. Biol. Soc. Wash., **11**, 1897, p. 196; Mus. Vert. Zool.).

Eutamias townsendi ochrogenys Merriam

Redwood Chipmunk

Original description—*Eutamias townsendi ochrogenys* Merriam, Proc. Biol. Soc. Wash., **11**, July 1, 1897, pp. 195, 206, 207.

Type locality—Mendocino, Mendocino County, California.

Synonyms—*Tamias townsendi; Tamias asiaticus townsendi; Tamias townsendi ochrogenys.*

Range—Narrow humid northwest coast strip (Transition and Boreal zones) from the Oregon line south to Cazadero, Sonoma County; interiorly as far as Cuddeback, Humboldt County, and Sherwood, Mendocino County (Merriam, *supra cit.;* Mus. Vert. Zool.).

Eutamias hindsi (Gray)

Marin Chipmunk

Original description—*Tamias hindei* [= *hindsi*] Gray, Ann. and Mag. Nat. Hist., **10**, 1842, p. 264.

Type locality—Near San Francisco, California; assumed to be north of the Bay, and Nicasio, Marin County, selected as type locality (Allen, Bull. Amer. Mus. Nat. Hist., **3**, 1890, p. 77).

Synonyms—Hinds Chipmunk; Redwood Chipmunk, part; *Tamias asiaticus hindsi.*

Range—Upper Sonoran and Transition zones in Marin County, and thence north along the inner coast ranges at least to northeastern Mendocino County (Merriam, Proc. Biol. Soc. Wash., **11**, 1897, p. 197; Mus. Vert. Zool.).

Eutamias merriami pricei (Allen)

Santa Cruz Chipmunk

Original description—*Tamias pricei* Allen, Bull. Amer. Mus. Nat. Hist., **7**, December, 1895, pp. 333–335.

Type locality—Portola, San Mateo County, California.

Synonyms—*Tamias townsendi pricei; Eutamias merriami,* part; Price Chipmunk.

Range—Humid Transition and Upper Sonoran in the coast region south of San Francisco Bay, from San Mateo County to Monterey County, inclusive (Mus. Vert. Zool.).

Eutamias merriami merriami (Allen)

Merriam Chipmunk

Original description—*Tamias asiaticus merriami* Allen, Bull. Amer. Mus. Nat. Hist., **2**, October, 1889, pp. 176–178.

Type locality—San Bernardino Mountains, San Bernardino County, California.

Synonyms—*Tamias merriami; ?Tamias asiaticus quadrivittatus.*

Range—Upper Sonoran and lower Transition zones on the mountains of the San Diegan district, south to the Cuyamaca and Laguna mountains, San Diego County; also north and east through the Tehachapi mountains and along the western foothills of the Sierra Nevada at least to Raymond, Madera County; also north through the coast ranges to San Luis Obispo County (Mus. Vert. Zool.).

Callospermophilus chrysodeirus chrysodeirus (Merriam)

Sierra Golden-mantled Ground Squirrel

Original description—*Tamias chrysodeirus* Merriam, N. Amer. Fauna, **4**, October, 1890, pp. 19, 20.

Type locality—Fort Klamath, Klamath County, Oregon.

Synonyms—*Callospermophilus chrysodeirus trinitatis* Merriam, Proc. Biol. Soc. Wash., **14**, July 19, 1901, p. 126 (type from Trinity Mountains, east of Hoopa Valley, northwestern California); *Citellus chrysodeirus;* Gilded Ground Squirrel; *Spermophilus chrysodeirus.*

Range—Upper Transition and Boreal zones of the mountains of northern California, west through the Trinity and Siskiyou mountains, east to the Warner Mountains, south along the Sierra Nevada as far as Cannell Meadow (near Kern County line), Tulare County; also on Inyo Mountains east of Owens Valley (Mus. Vert. Zool.).

Callospermophilus chrysodeirus bernardinus (Merriam)

San Bernardino Golden-mantled Ground Squirrel

Original description—*Spermophilus bernardinus* Merriam, Science, n. s., **8**, December 2, 1898, p. 782.

Type locality—San Bernardino Peak, San Bernardino County, California.

Synonyms—*Spermophilus chrysodeirus brevicaudus* Merriam, Proc. Biol. Soc. Wash., **8**, December 28, 1893, p. 134 (type from San Bernardino Peak, San Bernardino Mountains, California); *Citellus chrysodeirus bernardinus.*

Range—Upper Transition and Boreal zones on the San Bernardino Mountains (Grinnell, Univ. Calif. Publ. Zool., **5**, 1908, p. 141).

Ammospermophilus leucurus leucurus (Merriam)

Antelope Ground Squirrel

Original description—*Tamias leucurus* Merriam, N. Amer. Fauna, **2**, October, 1889, pp. 19–21.

Type locality—San Gorgonio Pass, Riverside County, California.

Synonyms—*Citellus leucurus vinnulus* Elliot, Field Col. Mus., zool. ser., **3**, December, 1903, p. 241 (type from Keeler, Inyo County, California); *Citellus leucurus; Spermophilus leucurus;* Antelope Chipmunk.

Range—Lower and Upper Sonoran zones in the southeastern desert regions, west to the east slopes of the Coast Ranges in eastern San Diego County, to San Gorgonio Pass as far as Cabezon, and to Antelope Valley, northern Los

Angeles County; north along the east side of the Sierra Nevada and through the Inyo region to Mono County (Mus. Vert. Zool.).

Ammospermophilus nelsoni (Merriam)

Nelson Ground Squirrel

Original description—Spermophilus nelsoni Merriam, Proc. Biol. Soc. Wash., **8**, December 28, 1893, pp. 129, 130.

Type locality—Tipton, Tulare County, California.

Synonyms—Citellus nelsoni; Nelson Spermophile.

Range—Lower Sonoran zone in the San Joaquin Valley, chiefly on the west side, from the vicinity of Bakersfield northeast to near Los Baños, Merced County; west to the Carrizo Plain and Cuyama Valley, San Luis Obispo County (Mus. Vert. Zool.).

Sciurus douglasi mollipilosus Audubon and Bachman

Redwood Chickaree

Original description—Sciurus molli-pilosus Audubon and Bachman, Proc. Acad. Nat. Sci. Phila., October, 1841, p. 102.

Type locality—Northern parts of California.

Synonyms—Sciurus hudsonicus orarius Bangs, Proc. Biol. Soc. Wash., **11**, December 30, 1897, pp. 281, 282 (type from Philo, Mendocino County, California); *Sciurus douglasi; Sciurus hudsonius douglassi.*

Range—Boreal and Transition zones in the northwest humid coast belt, from the Oregon line south as far as Camp Meeker, Sonoma County (Allen, Bull. Amer. Mus. Nat. Hist., **10**, 1898, p. 276; Mus. Vert. Zool.).

Sciurus douglasi albolimbatus Allen

Sierra Chickaree

Original description—Sciurus douglasii albolimbatus Allen, Bull. Amer. Mus. Nat. Hist., **10**, November 10, 1898, pp. 452, 453.

Type locality—Blue Canyon, Placer County, California.

Synonyms—Sciurus hudsonius californicus Allen, Bull. Amer. Mus. Nat. Hist., **3**, November, 1890, pp. 165, 166 (type from Blue Canyon, Placer County, California).

Range—Boreal zone along the entire Sierra Nevada from Taylor Meadow (near Kern County line), Tulare County, north to the Oregon line; east to the Warner Mountains, Modoc County; and west through the Siskiyou and Trinity mountains (Allen, Bull. Amer. Mus. Nat. Hist., **10**, 1898, p. 280; Mus. Vert. Zool.).

Sciurus griseus griseus Ord

California Gray Squirrel

Original description—"*Sciurus griseus* Ord, Journ. de Phys., **87**, 1818, p. 152."

Type locality—"The Dalles, Columbia River, Wasco County, Oregon."

Synonyms—*Sciurus heermanni* Le Conte, Proc. Acad. Nat. Sci. Phila., 1852, p. 149 (type from California, probably near Fort Tejon); *Sciurus fossor,* part; *Sciurus griseus nigripes,* part; *Sciurus leporinus.*

Range—Transition and high Upper Sonoran zones throughout the Sierra Nevada region, from Greenhorn Mountains, Kern County, north to the Oregon line, thence south coastwise, chiefly east of the redwood belt, to Marin County (Mus. Vert. Zool.).

Sciurus griseus nigripes Bryant

Black-footed Gray Squirrel

Original description—*Sciurus fossor nigripes* Bryant, Proc. Cal. Acad. Sci., June 20, 1889, pp. 25, 26.

Type locality—San Mateo County, California.

Synonym—*Sciurus fossor,* part.

Range—Humid coast Transition south of San Francisco Bay, from San Mateo County to Monterey County, inclusive (Mus. Vert. Zool.).

Sciurus griseus anthonyi Mearns

Anthony Gray Squirrel

Original description—*Sciurus fossor anthonyi* Mearns, Proc. U. S. Nat. Mus., **20**, 1898, pp. 501, 502.

Type locality—Campbell's ranch, Laguna Mountains, eastern San Diego County, California.

Synonym—*Sciurus fossor nigripes,* part.

Range—Transition zone of southern California, from near the Mexican boundary northwest to the mountains of Ventura County (Mus. Vert. Zool.).

Family PETAURISTIDAE

Sciuropterus alpinus stephensi Merriam

Mendocino Flying Squirrel

Original description—*Sciuropterus oregonensis stephensi* Merriam, Proc. Biol. Soc. Wash., **13**, June 13, 1900, p. 151.

Type locality—Sherwood, Mendocino County, California.

Synonyms—California Coast Flying Squirrel; Stephens Flying Squirrel.

Range—Transition zone in northwest humid coast belt; but one precise locality so far known, as above.

Sciuropterus alpinus klamathensis Merriam

Klamath Flying Squirrel

Original description—*Sciuropterus alpinus klamathensis* Merriam, Proc. Biol. Soc. Wash., **11**, July 15, 1897, p. 225.

Type locality—Transition zone, altitude 4200 feet, Fort Klamath, Klamath County, Oregon.

Synonym—*Sciuropterus volucella hudsonius.*

Range—Transition and Boreal zones of the interior of northern California: Warner Mountains, Modoc County, and Trinity Mountains, in Siskiyou and Trinity counties (Mus. Vert. Zool.); Mount Shasta (Merriam, N. Amer. Fauna, **16**, 1899, p. 92).

Sciuropterus alpinus lascivus Bangs

Sierra Nevada Flying Squirrel

Original description—*Sciuropterus alpinus lascivus* Bangs, Proc. New Eng. Zool. Club, **1**, July 31, 1899, p. 69.

Type locality—Tallac, Eldorado County, California.

Range—Transition zone on central Sierra Nevada.

Sciuropterus alpinus californicus Rhoads

San Bernardino Flying Squirrel

Original description—*Sciuropterus alpinus californicus* Rhoads, Proc. Acad. Nat. Sci. Phila., June, 1897, pp. 323, 324.

Type locality—San Bernardino Mountains, San Bernardino County, California.

Synonyms—Sciuropterus californicus; California Flying Squirrel.

Range—Transition zone on the San Bernardino and San Jacinto mountains (Rhoads, *supra cit.;* Grinnell, Univ. Calif. Publ. Zool., **5**, 1908, p. 138; Mus. Vert. Zool.).

Family CASTORIDAE

Castor subauratus Taylor

Golden Beaver

Original description—Castor subauratus Taylor, Univ. Calif. Publ. Zool., **10**, May 21, 1912, p. 167.

Synonyms—Castor canadensis pacificus; Castor canadensis, part.

Type locality—San Joaquin River at Grayson, Stanislaus County, California.

Range—Larger streams of Sacramento and San Joaquin basins, at least from Shasta County south to Stanislaus County.

Castor canadensis frondator Mearns

Sonora Beaver

Original description—Castor canadensis frondator Mearns, Proc. U. S. Nat. Mus., **20**, March 5, 1897, pp. 502, 503.

Type locality—San Pedro River, near Mexican boundary, Sonora, Mexico.

Synonym—Castor canadensis, part.

Range—Along the Colorado River from the Nevada line to the Mexican line.

Order LAGOMORPHA

Family OCHOTONIDAE

Ochotona schisticeps (Merriam)

Gray-headed Cony

Original description—Lagomys schisticeps Merriam, N. Amer. Fauna, **2**, October 30, 1889, p. 11.

Type locality—Donner, Placer County, California.

Synonym—*Lagomys schisticeps,* part; Gray-headed Pika; *Lagomys princeps.*

Range—Boreal zone of central Sierra Nevada, at least from Summit, Placer County, south to Heather Lake, Eldorado County (Mus. Vert. Zool.); Mount Shasta (Merriam, N. Amer. Fauna, **16**, 1899, p. 99).

Ochotona taylori Grinnell

Warner Mountain Cony

Original description—*Ochotona taylori* Grinnell, Proc. Biol. Soc. Wash., **25**, July 31, 1912, pp. 129, 130.

Type locality—Warren Peak, 9000 feet altitude, Warner Mountains, Modoc County, California.

Range—Boreal zone on the Warner Mountains, including Sugar Hill, Modoc County (Grinnell, *supra cit.*).

Ochotona albatus Grinnell

Mount Whitney Cony

Original description—*Ochotona albatus* Grinnell, Univ. Calif. Publ. Zool., **10**, January 31, 1912, p. 125.

Type locality—Cottonwood Lakes, 11,000 feet, Sierra Nevada, Inyo County, California.

Synonym—*Ochotona schisticeps,* part.

Range—Close to timberline in Boreal zone of southern Sierra Nevada, in Inyo and Tulare counties, at least from Kearsarge Pass south to Cottonwood Pass (Mus. Vert. Zool.).

Family LEPORIDAE

Lepus campestris townsendi Bachman

Western White-tailed Jack Rabbit

Original description—*Lepus townsendi* Bachman, Journ. Acad. Nat. Sci. Phila., **8**, pt. 1, 1839, pp. 90–94, pl. 2.

Type locality—Fort Walla Walla, Washington.

Synonym—*Lepus campestris.*

Range—Of sparse distribution in the Upper Sonoran and Transition zones of the Modoc region of northeastern California: Fort Crook, Shasta County, and Goose Lake, Modoc County (Nelson, N. Amer. Fauna, **29**, 1909, p. 82); and Parker Creek, Warner Mountains (Mus. Vert. Zool.).

Lepus campestris sierrae Merriam

Sierra White-tailed Jack Rabbit

Original description—*Lepus campestris sierrae* Merriam, Proc. Biol. Soc. Wash., **17**, July 14, 1904, p. 132.

Type locality—Hope Valley, altitude 7800 feet, Alpine County, California.

Range—Boreal zone on the Sierra Nevada from vicinity of Lake Tahoe (Merriam, *supra cit.*) south to Monache Meadows, Tulare County (Mus. Vert. Zool.); also, probably, on Mount Shasta (Nelson, N. Amer. Fauna, **29**, 1909, p. 84).

Lepus washingtoni klamathensis Merriam

Oregon Snowshoe Rabbit

Original description—*Lepus klamathensis* Merriam, N. Amer. Fauna, **16**, October, 1899, p. 100.

Type locality—Fort Klamath, Oregon.

Synonym—Klamath Rabbit.

Range—Boreal zone on the central Sierra Nevada, at least from Donner, Placer County, to Pacific, Eldorado County (Nelson, N. Amer. Fauna, **29**, 1909, pp. 107, 109); also Trinity Mountains, Trinity County (Mus. Vert. Zool.).

Lepus californicus californicus Gray

California Jack Rabbit

Original description—*Lepus californica* Gray, Mag. Nat. Hist. (Charlesworth), **1**, 1837, p. 586.

Type locality—St. Antoine, California, that is, Mission of San Antonio, Jolon, Monterey County (*fide* Nelson, N. Amer. Fauna, **29**, 1909, p. 129).

Synonym—*Lepus longicaudatus.*

Range—Upper Sonoran zone of west-central and northern California, from northern Santa Barbara County to the Oregon line, interiorly to include Shasta Valley and the whole of Sacramento Valley and adjacent foothills (Nelson, *supra cit.*, p. 132; Mus. Vert. Zool.).

Lepus californicus wallawalla Merriam

Washington Jack Rabbit

Original description—*Lepus texianus wallawalla* Merriam, Proc. Biol. Soc. Wash., **17**, July 14, 1904, p. 137.

Type locality—Touchet, Plains of Columbia, Washington.

Range—Upper Sonoran and lower Transition zones in the Modoc region of northwestern California, west to Beswick, Siskiyou County, and south to Beckwith, Plumas County (Nelson, N. Amer. Fauna, **29**, 1909, p. 133; Mus. Vert. Zool.).

Lepus californicus richardsoni Bachman

San Joaquin Jack Rabbit

Original description—*Lepus richardsonii* Bachman, Journ. Acad. Nat. Sci. Phila., **8**, pt. 1, 1839, pp. 88–90.

Type locality—Not known exactly, but probably near Jolon, Monterey County, California (see Merriam, Proc. Biol. Soc. Wash., **17**, 1904, p. 136).

Synonyms—*Lepus tularensis* Merriam, *supra cit.*, pp. 136, 137 (type from Alila [=Earlimart], Tulare County, California); *Lepus californicus*, part.

Range—Lower Sonoran and low Upper Sonoran zones in the San Joaquin Valley, surrounding foothills, and valleys to the westward to and including Salinas and Cuyama valleys (Nelson, N. Amer. Fauna, **29**, 1909, p. 136; Mus. Vert. Zool.).

Lepus californicus bennetti Gray

San Diego Jack Rabbit

Original description—"*Lepus bennetti* Gray, Zool. Voyage Sulphur, 1844, p. 35, pl. 14."

Type locality—"San Diego, California."

Synonym—*Lepus californicus*, part.

Range—Lower and Upper Sonoran zones in the San Diegan district, from the Mexican line northwest to southern Santa Barbara County, altogether west of the desert divides (Nelson, N. Amer. Fauna, **29**, 1909, p. 137; Mus. Vert. Zool.).

Lepus californicus deserticola Mearns

Colorado Desert Jack Rabbit

Original description—*Lepus texianus deserticola* Mearns, Proc. U. S. Nat. Mus., **18**, June 24, 1896, p. 564.

Type locality—Western edge of Colorado Desert, at east base of Coast Range, in San Diego County, California.

Synonym—*Lepus californicus*, part.

August 26, 1913.

Range—Chiefly Lower Sonoran zone (locally up through Transition) in the desert regions of southeastern California, west to the eastern confines of the San Diegan district, and north, east of the Sierra Nevada, to Mono Lake (Nelson, N. Amer. Fauna, **29**, 1909, pp. 137, 140; Mus. Vert. Zool.).

Sylvilagus nuttalli nuttalli (Bachman)

Washington Cottontail

Original description—*Lepus nuttallii* Bachman, Journ. Acad. Nat. Sci. Phila., **7**, pt. 2, 1837, pp. 345–348, pl. 22, fig. 1.

Type locality—Probably eastern Oregon near mouth of Malheur River (see Nelson, N. Amer. Fauna, **29**, 1909, p. 201).

Range—Upper Sonoran and Transition zones in parts of the Modoc region of northeastern California, west to Shasta Valley, Siskiyou County, and south to Mono Lake, Mono County (Nelson, *supra cit.*, pp. 201, 204; Mus. Vert. Zool.).

Sylvilagus nuttalli grangeri (Allen)

Black Hills Cottontail

Original description—*Lepus sylvaticus grangeri* Allen, Bull. Mus. Nat. Hist., **7**, August 21, 1895, pp. 264, 265.

Type locality—Hill City, Black Hills, Custer County, South Dakota.

Synonym—*Lepus laticinctus perplicatus* Elliot, Field Col. Mus., zool. ser., **3**, December, 1903, p. 255 (type from Hannopee Canyon, Panamint Mountains, Inyo County, California.

Range—High Upper Sonoran and Transition zones on desert ranges of the Inyo region, from White Mountains south to the Coso and Panamint mountains (Nelson, N. Amer. Fauna, **29**, 1909, pp. 204, 207).

Sylvilagus auduboni auduboni (Baird)

Sacramento Cottontail

Original description—*Lepus audubonii* Baird, Pac. R. R. Rep., **8**, 1857, pp. 608–610, pl. 58, fig. 2.

Type locality—San Francisco, California.

Synonym—*Lepus sylvaticus auduboni.*

Range—Upper Sonoran zone in Sacramento Valley and San Francisco Bay region; recorded north to Red Bluff, Tehama County, and South to Los Baños, Merced County (Nelson, N. Amer. Fauna, **29**, 1909, pp. 214, 216; Mus. Vert. Zool.); not reported from the coast belt north of San Francisco Bay nor south of the Santa Clara Valley.

Sylvilagus auduboni vallicola Nelson

San Joaquin Cottontail

Original description—*Sylvilagus auduboni vallicola* Nelson, Proc. Biol. Soc. Wash., **20**, July 22, 1907, pp. 82, 83.

Type locality—San Emigdio Ranch (25 miles southwest of Bakersfield), Kern County, California.

Range—Lower Sonoran zone (locally into Upper Sonoran) in the southern San Joaquin Valley, west to the Cuyama and Salinas valleys; recorded north to Raymond, Madera County, and south to the Walker and Tejon passes (Nelson, N. Amer. Fauna, **29**, 1909, pp. 216, 218; Mus. Vert. Zool.).

Sylvilagus auduboni sanctidiegi (Miller)

San Diego Cottontail

Original description—*Lepus floridanus sanctidiegi* Miller, Proc. Acad. Nat. Sci. Phila., October, 1899, pp. 389, 390.

Type locality—Mexican boundary near Pacific Ocean, in San Diego County, California.

Range—Upper and Lower Sonoran zones in the San Diegan district, west of the desert divides, from southern Ventura County southwest to the Mexican line (Nelson, N. Amer. Fauna, **29**, 1909, pp. 218, 220; Mus. Vert. Zool.).

Sylvilagus auduboni arizonae (Allen)

Arizona Cottontail

Original description—*Lepus sylvaticus* var. *arizonae* Allen, Mon. N. Amer. Rodentia, 1877, p. 332.

Type locality—Beal Spring, 2 miles from Kingman, Mohave County, Arizona.

Synonyms—*Lepus laticinctus* Elliot, Field Col. Mus., zool. ser., 3, December, 1903, p. 254 (type from Oro Grande, Mohave Desert, San Bernardino County, California); *Lepus* *laticinctus rufipes* Elliot, *supra cit.*, pp. 254, 255 (type from Furnace Creek, Death Valley, Inyo County, California).

Range—Lower Sonoran and, locally, Upper Sonoran zone of the Colorado and Mohave desert regions; west to eastern border of the San Diegan district; north, east of the Sierra Nevada, through Owens Valley (Nelson, N. Amer. Fauna, 29, 1909, pp. 222, 225; Mus. Vert. Zool.).

Sylvilagus bachmani bachmani (Waterhouse)

California Brush Rabbit

Original description—*Lepus bachmani* Waterhouse, Proc. Zool. Soc. London, 1838, pp. 103–105.

Type locality—California, probably between Monterey and Santa Barbara, later fixed at San Luis Obispo (see Nelson, N. Amer. Fauna, 29, 1909, p. 247).

Synonym—*Lepus trowbridgii* Baird, Proc. Acad. Nat. Sci. Phila., April, 1855, p. 333 (type from Monterey, California).

Range—Upper Sonoran zone in the narrow coastal belt from Santa Monica, Los Angeles County, northwest to Monterey, thence north to Mount Hamilton and along western side of Santa Clara Valley to Black Mountain; also western foothills of Sierra Nevada from Tulare County to Shasta County (Nelson, *supra cit.*, pp. 247, 250; Mus. Vert. Zool.).

Sylvilagus bachmani ubericolor (Miller)

Redwood Brush Rabbit

Original description—*Lepus bachmani ubericolor* Miller, Proc. Acad. Nat. Sci. Phila., October, 1899, pp. 383, 384.

Type locality—Beaverton, Washington County, Oregon.

Synonyms—*Lepus trowbridgei,* part; *Lepus bachmani,* part; *Lepus floridanus ubericolor.*

Range—Transition and high Upper Sonoran zones in humid coast belt, from vicinity of Santa Cruz north to the Oregon line, including most of the San Francisco Bay region; also interiorly, at the north, to the head of the Sacramento Valley (Nelson, N. Amer. Fauna, 29, 1909, pp. 250, 252; Mus. Vert. Zool.).

Sylvilagus bachmani cinerascens (Allen)

Ashy Brush Rabbit

Original description—*Lepus cinerascens* Allen, Bull. Amer. Mus. Nat. Hist., **3**, October, 1890, p. 159.

Type locality—San Fernando, Los Angeles County, California.

Range—Upper Sonoran zone in the San Diegan district, from the Mexican line northwest through the interior of Ventura and Santa Barbara counties; thence north through the inner coast ranges west of the San Joaquin Valley to Jolon and Jamesburg on west side of Salinas Valley, in Monterey County; and east around southern rim of San Joaquin Valley to vicinity of Walker Pass (Nelson, N. Amer. Fauna, **29**, 1909, pp. 252, 253; Mus. Vert. Zool.).

Brachylagus idahoensis (Merriam)

Idaho Pigmy Rabbit

Original description—*Lepus idahoensis* Merriam, N. Amer. Fauna, **5**, July, 1891, pp. 76, 77.

Type locality—Pahsimeroi Valley, Custer County, Idaho.

Range—Upper Sonoran zone in extreme eastern part of the Modoc region, northeastern California; the only record station to date is Goose Lake, Modoc County (Nelson, N. Amer. Fauna, **29**, 1909, pp. 275, 278).

Order ARTIODACTYLA

Family CERVIDAE

Cervus roosevelti Merriam

Roosevelt Elk

Original description—*Cervus roosevelti* Merriam, Proc. Biol. Soc. Wash., **11**, December 17, 1897, pp. 272, 273.

Type locality—Mount Elaine, near Mount Olympus, Olympic Mountains, Washington.

Synonyms—*Cervus canadensis*, part; *Cervus canadensis occidentalis;* Roosevelt Wapiti.

Range—Northwest humid coast belt chiefly in the Transition zone, south formerly to Marin County (Mailliard, MS), east at least to the vicinity of Mount Shasta (Townsend, Proc. U. S. Nat. Mus., **10**, 1887, p. 168); now existing in relatively small numbers in Del Norte and Humboldt counties (according to information received through California Fish and Game Commission).

Cervus nannodes Merriam

Dwarf Elk

Original description—Cervus nannodes Merriam, Proc. Biol. Soc. Wash., **18**, February 2, 1905, pp. 24, 25.

Type locality—Buttonwillow, Kern County, California.

Synonym—Cervus canadensis, part; California Wapiti; San Joaquin Valley Elk; Tule Elk.

Range—Lower Sonoran zone, formerly in the San Joaquin Valley, especially in its southern part, west through the coast ranges to the Cuyama Valley in northern Santa Barbara County, and to Santa Clara Valley in Santa Clara County (Rowley, MS; Mus. Vert. Zool.); also probably north through the Sacramento Valley at least as far as the vicinity of Marysville Buttes. Now only in western Kern County, between Tulare and Buena Vista lakes and adjacent hills to the west; a transplanted herd in the Sequoia National Park, Tulare County.

Odocoileus virginianus macrourus (Rafinesque)

White-tailed Deer

Original description—Corvus (=Cervus) macrourus Rafinesque, Amer. Monthly Mag., **1**, October, 1817, p. 436.

Type locality—Plains of Kansas River, Upper Missouri Valley.

Synonym—Odocoileus americanus macrourus.

Range—Said to have formerly occurred in extreme eastern and northeastern California, chiefly in the Modoc region. Many accounts by hunters, but no verified or recent report.

Odocoileus columbianus columbianus (Richardson)

Columbian Black-tailed Deer

Original description—Cervus macrotis var. *columbiana* Richardson, Fauna Boreali-Americana, **1**, 1829, p. 257.

Type locality—Mouth of the Columbia River, Oregon or Washington.

Synonym—*?Cervus lewisii* Peale, U. S. Exploring Exped., **8**, 1848, "p. 39, pl. 9" (type from Feather River, Upper California).

Range—Northwest coast region chiefly in the Transition and Boreal zones; east throughout the inner coast ranges to the Sacramento Valley, and at the north to and including Mount Shasta and near vicinity; south to the north side of San Francisco Bay.

Odocoileus columbianus scaphiotus Merriam

Southern Black-tailed Deer

Original description—*Odocoileus columbianus scaphiotus* Merriam, Proc. Biol. Soc. Wash., **12**, April 30, 1898, p. 101.

Type locality—Laguna Ranch, Gabilan Range, San Benito County, California.

Synonyms—*Odocoileus columbianus,* part; Columbian Black-tailed Deer, part.

Range—Transition and high Upper Sonoran zones south from San Francisco Bay through the Santa Cruz district at least into Monterey and San Benito counties. In spite of expressed doubts as to the existence of two recognizable forms of the black-tailed deer within the state, material accumulated in the collection of the California Academy of Sciences affords basis for the belief that two races do exist (*columbianus* and *scaphiotus*), with ranges as here defined (Rowley, MS).

Odocoileus hemionus hemionus (Rafinesque)

Rocky Mountain Mule Deer

Original description—*Cervus hemionus* Rafinesque, Amer. Monthly Mag., **1**, October, 1817, p. 436.

Type locality—Sioux River, South Dakota.

Range—Eastern California, including main Sierra Nevada south into Kern County and north to vicinity of Mount Lassen, thence northeast through the Modoc region. Western limit at extreme north, Mount Shasta (Rowley, MS). Not in the desert ranges east of Owens Valley except in winter. Occurs in summer on the high Sierras up to timberline; in winter most numerous in the foothills.

Odocoileus hemionus californicus (Caton)

California Mule Deer

Original description—*Cervus macrotis* var. *californicus* Caton, Amer. Nat., **10**, August, 1876, p. 464.

Type locality—Near Gaviota Pass, 40 miles westward from Santa Barbara, in Santa Barbara County, California.

Range—Upper Sonoran and Transition zones of southern California west of the desert proper, from the Mexican line northwest through the San Diegan district at least to San Luis Obispo County, and east through the Tejon region to the Tehachapi Mountains.

Odocoileus hemionus eremicus (Mearns)

Burro Deer

Original description—*Dorcelaphus hemionus eremicus* Mearns, Proc. U. S. Nat. Mus., **20**, February 11, 1897, pp. 470, 471.

Type locality—Sierra Seri, Sonora, Mexico, near Gulf of California.

Synonym—Desert Mule Deer.

Range—Lower Sonoran zone on the Colorado desert, formerly north along the Colorado River at least to the vicinity of Palo Verde, and northwest around Salton Sea; now rare or entirely wanting north of the Mexican line.

Family ANTILOCAPRIDAE

Antilocapra americana americana (Ord)

Prong-horn Antelope

Original description—"*Antelope americana* Ord, Guthrie's Geo., 2nd Amer. ed., **2**, 1815, pp. 292, 308."

Type locality—On the plains and highlands of the Missouri (*fide* Miller and Rehn, Proc. Boston Soc. Nat. Hist., **30**, 1901, p. 20).

Range—Formerly nearly throughout the state south and east of the humid coast-belt and below the Boreal zone; chiefly, however, on the interior plains and valleys both east and west of the desert divides. Now only isolated bands exist: in the Modoc region, in the southern San Joaquin Valley on the west side, on the western arm of the Mohave desert in northern Los Angeles County or southern Kern County, and on the Colorado desert near the Mexican line, in eastern San Diego County or western Imperial County.

Family BOVIDAE

Ovis canadensis nelsoni Merriam

Desert Bighorn

Original description—*Ovis nelsoni* Merriam, Proc. Biol. Soc. Wash., **11**, July 15, 1897, pp. 217, 218.

Type locality—Grapevine Mountains, on boundary between California and Nevada, just south of latitude 37°.

Synonyms—*Ovis canadensis,* part; *Ovis cervina nelsoni;* Mountain Sheep, part; Desert Sheep.

Range—Lower and Upper Sonoran zones on the Mohave and Colorado deserts and adjacent and included ranges, west to the Santa Rosa Mountains, Riverside County, northwest (formerly) through the Tejon region to the Caliente Hills, San Luis Obispo County, and north through the Inyo region east of Owens Valley.

Ovis canadensis sierrae Grinnell

Sierra Nevada Bighorn

Original description—*Ovis cervina sierrae* Grinnell, Univ. Calif. Publ. Zool., **10**, May 9, 1912, pp. 144–150.

Type locality—East slope Mount Baxter, 11,000 feet altitude, Sierra Nevada, Inyo County, California.

Synonyms—*Ovis canadensis,* part; Mountain Sheep, part.

Range—High Sierra Nevada, formerly at least from Mariposa County to Tulare County; also (probably this race) in the vicinity of Mount Shasta east to the Warner Mountains, Modoc County. Now only from Mono County south to the vicinity of Mount Whitney; restricted to Boreal zone in summer, descending in winter to east base of the Sierra Nevada. There are sheep still existing on the San Gabriel Mountains (Transition zone), southern California; status unknown.

Order CETACEA

Family DELPHINIDAE

Tursiops gilli Dall

Cowfish

Original description—Tursiops gillii Dall, Proc. Cal. Acad. Sci., **5**, April, 1873, p. 13.

Type locality—Monterey, California (*fide* True, Bull. U. S. Nat. Mus., **36**, 1889, p. 43).

Range—The ocean and bays coastwise (Scammon, Marine Mammals, 1874, p. 101).

Delphinus delphis Linnaeus

Common Dolphin

Original description—Delphinus delphis Linnaeus, Syst. Nat., **1**, 1758, p. 77.

Type locality—North Atlantic Ocean near Europe.

Synonym—Delphinus bairdii Dall, Proc. Cal. Acad. Sci., **5**, April, 1873, pp. 12, 13 (types from Point Argúello, Santa Barbara County, California); Baird Dolphin.

Range—The ocean and bays coastwise (Scammon, Marine Mammals, 1874, p. 99; True, Bull. U. S. Nat. Mus., **36**, 1889, p. 52).

Lissodelphis borealis (Peale)

Northern Right Whale Porpoise

Original description—Delphinapterus borealis Peale, U. S. Explor. Exped., **8**, 1848, p. 35, "pl. 8, fig. 2."

Type locality—North Pacific Ocean, lat 46° 6′ 50″, long. 134° 5′ W.

Synonyms—Leucorhamphus borealis; Tursio borealis.

Range—The ocean coastwise from San Diego Bay northwards (Scammon, Marine Mammals, 1874, p. 101).

Lagenorhynchus obliquidens Gill

Striped Porpoise

Original description—Lagenorhynchus obliquidens Gill, Proc. Acad. Nat. Sci. Phila., September, 1865, pp. 177, 178.

Type locality—San Francisco, California.

Synonym—Common Porpoise, part.

Range—The ocean coastwise (Scammon, Marine Mammals, 1874, p. 98).

Phocaena phocaena (Linnaeus)

Bay Porpoise

Original description—*Delphinus phocaena* Linnaeus, Syst. Nat., 1, 1758, p. 77.

Type locality—European and Baltic seas.

Synonyms—*Phocaena communis; Phocaena vomerina;* Common Porpoise, part.

Range—The ocean and bays coastwise including San Francisco Bay (Scammon, Marine Mammals, 1874, pp. 95, 97).

Grampus griseus (Cuvier)

Common Grampus

Original description—"*Delphinus griseus* Cuvier, Ann. Mus. Paris, 1812, p. 14, pl. 1, fig. 1."

Type locality—"Brest, coast of France."

Synonym—*Grampus stearnsii* Dall, Proc. Calif. Acad. Sci., 5, January, 1873, p. 13 (types from Monterey, California).

Range—The ocean coastwise (Scammon, Marine Mammals, 1874, pp. 103, 300).

Globicephalus scammoni Cope

Scammon Blackfish

Original description—*Globiocephalus scammoni* Cope, Proc. Acad. Nat. Sci. Phila., 1869, p. 21.

Type locality—Coast of Lower California (*fide* Dall, *in* Scammon, Marine Mammals, 1874, p. 299).

Range—The ocean north from Lower California (Scammon, Marine Mammals, 1874, pp. 85–87).

Orcinus ater (Cope)

Pacific Killer

Original description—*Orca ater* Cope, Proc. Acad. Nat. Sci. Phila., 1869, p. 22.

Type locality—Northwest coast.

Synonyms—Orcinus orca; Orcinus rectipinna, part; Black Killer; Orca.

Range—In the ocean coastwise (Scammon, Marine Mammals, 1874, p. 90).

Orcinus rectipinna (Cope)

Straight-finned Killer

Original description—Orca rectipinna Cope, Proc. Acad. Nat. Sci. Phila., 1869, p. 22.

Type locality—California.

Range—In the ocean coastwise, especially to the northward (Scammon, Proc. Acad. Nat. Sci. Phila., 1869, pp. 56, 57).

Family ZIPHIIDAE

Berardius bairdi Stejneger

Baird Beaked Whale

Original description—Berardius bairdii Stejneger, Proc. U. S. Nat. Mus., **6**, 1883, pp. 75, 76.

Type locality—Stare Gavan, Bering Island, Bering Sea.

Synonym—Baird Sperm Whale.

Range—Ocean along northwest coast: Centerville Beach near Ferndale, and Trinidad, Humboldt County (True, Bull. U. S. Nat. Mus., **73**, 1910, pp. 2, 63).

Family PHYSETERIDAE

Physeter macrocephalus Linnaeus

Sperm Whale

Original description—Physeter macrocephalus Linnaeus, Syst. Nat., **1**, 1758, p. 76.

Type locality—North Atlantic Ocean near Europe.

Range—Formerly in the ocean north along the coast of California (Scammon, Proc. Acad. Nat. Sci. Phila., 1869, p. 61).

Family BALAENIDAE

Balaena sieboldi Gray

Pacific Right Whale

Original description—*Balaena sieboldii* Gray, Ann. and Mag. Nat. Hist., 3rd ser., 14, 1864, p. 349.

Type locality—Coast of Japan.

Synonym—Siebold Baleen Whale; *Balaena japonica; Balaena cullamach.*

Range—Few along coast of California (Scammon, Marine Mammals, 1874, p. 66).

Rhachianectes glaucus (Cope)

California Gray Whale

Original description—*Agaphelus glaucus* Cope, Proc. Acad. Nat. Sci. Phila., June, 1868, pp. 159, 160.

Type locality—Coast of California: Monterey (see Dall, *in* Scammon, Marine Mammals, 1874, p. 301).

Synonym—Gray Baleen Whale.

Range—Frequent in the ocean and bays coastwise from November to May (Scammon, Marine Mammals, 1874, pp. 22, 23).

Megaptera versabilis Cope

Pacific Humpback Whale

Original description—*Megaptera versabilis* Cope, Proc. Acad. Nat. Sci. Phila., 1869, pp. 15, 16.

Type locality—North Pacific.

Synonym—*Megaptera nodosa versabilis.*

Range—In the ocean and bays coastwise; Monterey Bay, April to December (Scammon, Marine Mammals, 1874, p. 44).

Balaenoptera velifera Cope

Pacific Finback Whale

Original description—*Balaenoptera velifera* Cope, Proc. Acad. Nat. Sci. Phila., 1868, p. 16.

Type locality—Coast of Oregon.

Synonyms—*Balaenoptera physalis velifera;* Oregon Finback Whale.

Range—In the ocean and bays coastwise (Scammon, Marine Mammals, 1874, pp. 34–36).

Balaenoptera sulfureus (Cope)

Pacific Sulphur-bottom Whale

Original description—*Sibbaldius sulfureus* Cope, Proc. Acad. Nat. Sci. Phila., 1869, p. 20.

Type locality—Northwest Coast.

Range—At all seasons along the coast of California (Scammon, Marine Mammals, 1874, p. 71).

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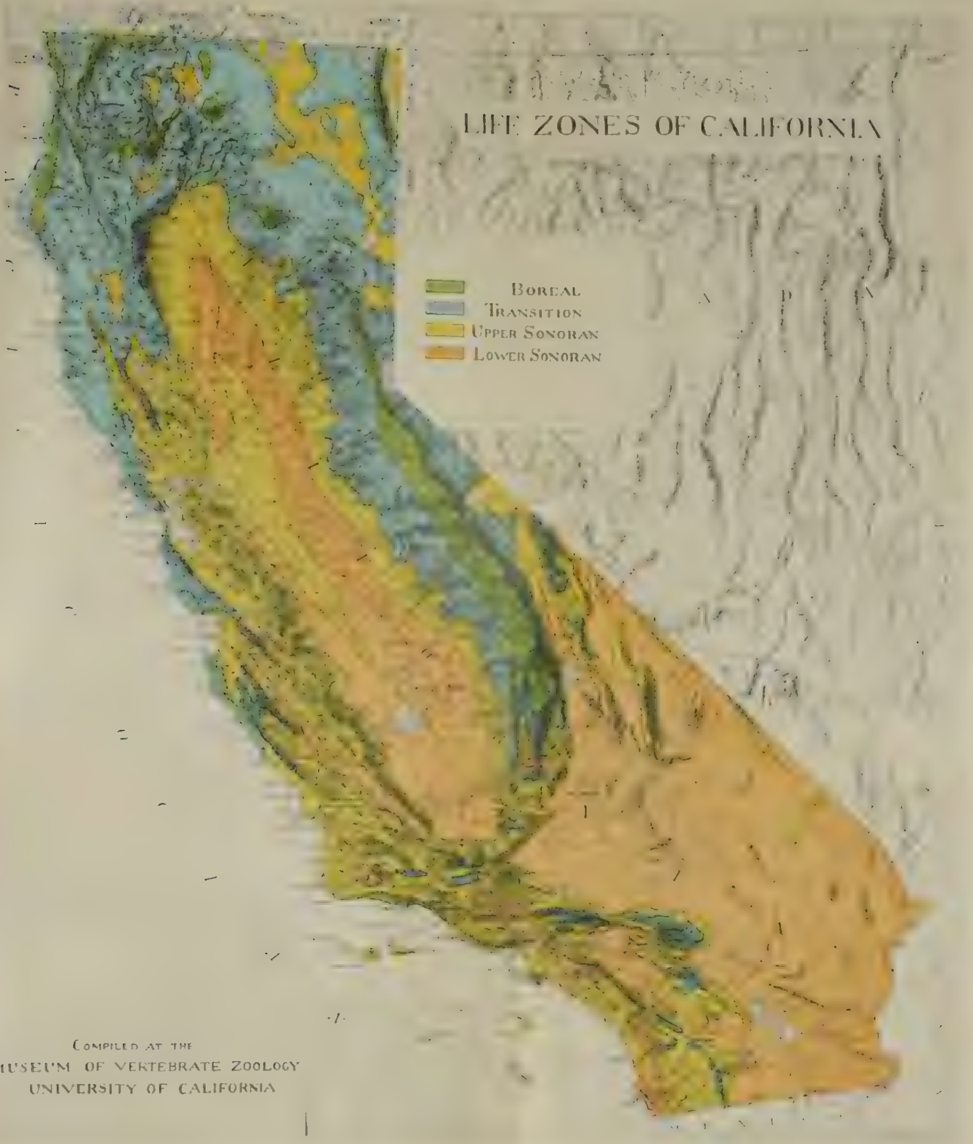
EXPLANATION OF PLATE XV

Map showing the Life Zones of California.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🟦 TRANSITION
🟨 UPPER SONORAN
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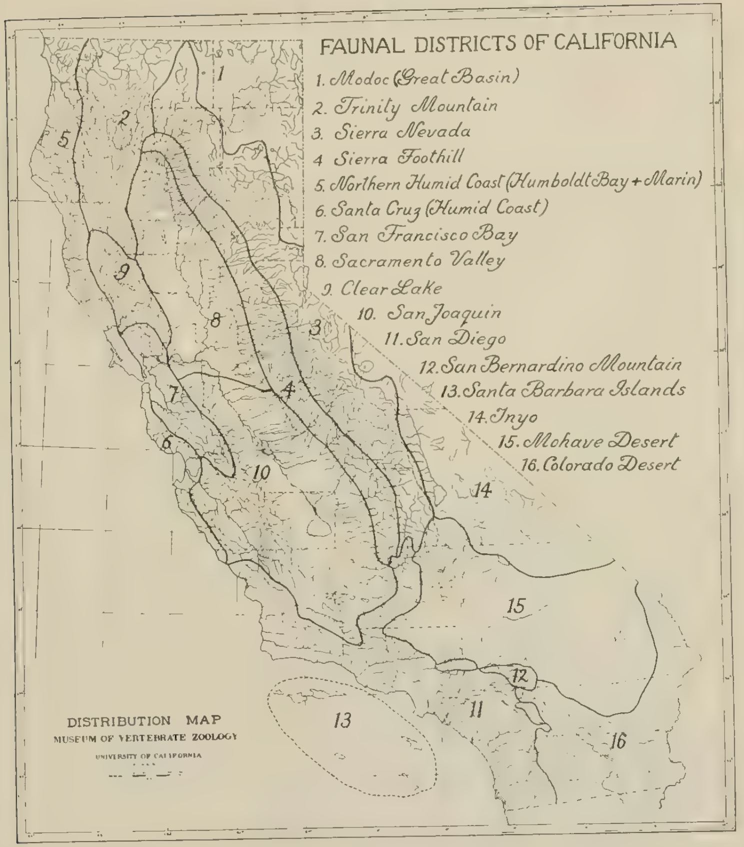
EXPLANATION OF PLATE XVI

Map showing Faunal Districts of California.


FAUNAL DISTRICTS OF CALIFORNIA
1. Modoc (Great Basin)
2. Trinity Mountain
3. Sierra Nevada
4 Sierra Foothill
5. Northern Humid Coast (Humboldt Bay + Marin)
6. Santa Cruz (Humid Coast)
7. San Francisco Bay
8. Sacramento Valley
9. Clear Lake
10. San Joaquin
11. San Diego
12. San Bernardino Mountain
13. Santa Barbara Islands
14. Inyo
15. Mohave Desert
16. Colorado Desert
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